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ABSTRACT

This paper reports the results emanating from the Dissemination, Utilization, and Assessment (DUA) project. Designed to shed light on factors that might facilitate or impede more effective and extensive use of audiovisual materials in higher education, this 3-year project focused on the use of the audiovisual materials produced by Annenberg/CPB. The first of four chapters provides background information and an introduction, including a description of the project origin, design, and methodology. The second chapter describes each of the five sites--i.e., Atlanta, Georgia; Amherst, Massachusetts; University of South Florida; Washington State Community Colleges; the University of Wisconsin System--and the institutions of higher education that participated in the project. The results of the study are presented in the third chapter, including the amount and nature of materials used by each institutional site, and the ways in which the materials were used. (Data showed that most of the higher education institutions used the materials to supplement instruction rather than as the primary method of instructional presentation.) The fourth chapter presents a summary of project findings and conclusions. A copy of use study questionnaire is appended. (DB)

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FINAL REPORT

Dissemination, Utilization, and Assessment Project

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June 1989

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Preface

This volume reports the results emanating from the Dissemination, Utilization, and Assessment (DUA) project, which was conducted by Educational Testing Service (ETS) for the Annenberg/Corporation for Public Broadcasting (Annenberg/CPB) Project. This three year effort was designed to shed light on the factors which might facilitate or impede more effective and extensive use of audio visual materials in higher education. More specifically, the project focused on the use of the audio visual materials produced by Annenberg/CPB. The Annenberg/CPB and ETS staffs jointly designed this project; ETS staff conducted it.

The financial and intellectual support for this project provided by Mara Mayor, Director of the Annenberg/CPB Project, Bobbi Kamil, Special Assistant for Academic Utilization, and Peter Dirr, Deputy Director, have been invaluable. In addition, the assistance of the five local project directors and the administrators of their institutions has been critical. These include, Susan Tracy, Assistant Professor, and Adele Simmons, President of Hampshire College; Gerald Durley, Special Assistant to the President, and Professor Frank Johnson at Clark College; Marlena Scordan Weglin, Director of the Puget Sound Telecommunications Center, and Terence Clark, Director of Library and Information Services, Bellevue Community College; Professor Thomas Wilson, Director of the Open University, and Vice President James Heck, University of South Florida; and Kenneth Warren, Assistant to the Vice President, Ronald Bornstein, Vice President for University Relations, and Katharine Lyall, Executive Vice President, University of Wisconsin

System.

At Educational Testing Service the assistance and support of Gregory Anrig, President, Ernest Anastasio, Vice President, and Victor Bunderson, Vice President, have all been invaluable. Furthermore, the administrative and research support of Virginia Wilson, Lois Barrett-Murray, Mary Varone, and Joanne Farr are all gratefully acknowledged. However, the authors take responsibility for all the data, interpretations, analyses, and opinions expressed in this document.

This research monograph provides a summary of activities undertaken during the DUA Project. Chapter One provides a background and introduction including a description of the project origin, design, and methodology. Chapter Two is a brief description of each of the five sites and of the institutions of higher education that participated in the project. In Chapter Three the results of data collection and analysis relevant to the use of the Annenberg/CPB materials are described in detail. Finally, Chapter Four presents a summary of project findings and conclusions.

Chapter One

INTRODUCTION

A. Annenberg/Corporation for Public Broadcasting (Annenberg/CPB) Project

The Annenberg/CPB Project was created in 1981 to enhance the quality and availability of higher education through the use of telecommunication and information technologies. With funding of $10 million a year for 15 years provided by The Annenberg School of Communications to the Corporation for Public Broadcasting, the Project seeks to develop course materials, tools and delivery systems that increase opportunities for those who wish to obtain a college-level education, especially at the baccalaureate level. To achieve that end, the Project provides funds to develop innovative course materials and to explore new applications of electronic technologies.

All activities funded by the Project are aimed, either in the short or long term at addressing the needs of nontraditional learners who, because of constraints on time, resources, or available options, are unable to work towards an undergraduate degree by attending regularly scheduled campus-based class.

In addition, many projects serve the needs of one or more of the following groups of learners:

1. members of the general public who would welcome the intellectual stimulation provided by conveniently available college-level materials;
2. students with ready access to campus, who can benefit from the

addition of new or otherwise unavailable scholarly resources that can be integrated with existing courses; and

3. faculty and administrators who wish to explore the ways that telecommunication and information technologies can be used to improve the quality of education for all learners.

To meet its mission of enhancing the quality and accessibility of higher education, the Project funds two types of activities:

1. the development of high quality college-level materials that creatively use the telecommunication and information technologies; and
2. demonstration projects that explore new and better applications of technology to meet the needs of higher education.

In the early years of the Project, the bulk of the funds were used to produce series of video-based and audio-based college-level courses. Each course has video or audio lessons and accompanying print materials including textbooks, instructor's manuals, and student's guide. Some of the print materials are original and have been developed specifically to support the Annenberg/CPB Course. Other courses incorporate the use of existing textbooks.

Determination was made early in the life of the Annenberg/CPB Project to produce telecourses which would correspond to the subjects normally included in the first two years of an undergraduate liberal arts education. The list of telecourses originally produced and currently under production shows clearly this preference for the freshman and

sophomore year curricula.

Additional information on all Annenberg/CPB Project materials and activities is available from: Annenberg/CPB Project, 1111 16th Street NW, Washington, DC 20036, telephone 202-955-5251. Because of the emphasis on the first two years of the liberal arts curriculum, the Annenberg/CPB audio and video courses can be used effectively by both two year and four year academic programs.

B. Dissemination, Utilization, and Assessment (DUA) Project

In the fall of 1984, Educational Testing Service (ETS) and Annenberg/CPB embarked upon a series of discussions to design a research project to examine the patterns of use of audio-visual materials in higher education. After several joint meetings, ETS prepared a proposal to Annenberg/CPB for the DUA project.

Experience with the Annenberg/CPB materials up to that time indicated some reluctance on the part of faculty, particularly those in four year institutions, to use the Annenberg/CPB materials. Therefore, it was decided that the DUA project should look at all patterns of use of the Annenberg/CPB materials, i.e. as a telecourse for off-campus students and to supplement on-campus courses. Indeed it seemed clear, even in the early design stages of the project, that supplementary uses of the materials might turn out to be more wide spread in terms of numbers of students exposed to the materials than telecourse use. However, it was not clear whether there might be a difference in patterns of use between

two and four year institutions. The suspicion was that telecourse use might be more common in community colleges and supplementary use might be more widespread in four year institutions.

The premise and approach of the DUA project were simple. First, the Annenberg/CPB Project would provide all its course materials to participating colleges and universities. Then it would remove all the barriers to use that were under the control of the Project. Next, it would encourage creative uses of the course materials as telecourses, as supplements in on-campus courses, and as resources for providing educational services to new clienteles such as prisoners, library patrons, and senior citizens. ETS would document and monitor the number and types of uses made of the course materials. Finally, ETS would probe what factors motivated or inhibited use.

Feedback from many of the early users of the Annenberg/CPB materials convinced the staff that cost was a major determinant used by faculty and administrators when deciding whether or not to use Annenberg/CPB materials. To remove that as a possible deterrent to use in this project, a decision was made that institutions participating in the DUA project would have free, unlimited, and unrestricted access to all the Annenberg/CPB materials during the life of the project. This included the right to duplicate as many copies of the programs as they wanted for use by their faculty and students. The primary question for the DUA project then became: What patterns and levels of use would occur when the materials are made available with all the known cost barriers

removed?

The basic strategy for the DUA project was to make all the materials readily available to all faculty and students in several institutions, i.e., literally to inundate the campuses with all the existing Annenberg/CPB materials. The analysis of the patterns of dissemination and utilization could be helpful in promoting more widespread and effective use of the materials on other campuses. The basic methodology to be employed was comparative case studies. Each participating institution would be studied over time to focus on patterns of materials use. The basic task of the DUA project was to document this distribution and use of the materials. The comparison of experiences across the institutions might then yield policy implications for future use of audio-visual materials in higher education.

The DUA project then was designed to attain the following objectives:

1. enlist participation from a variety of institutions of higher education;
2. infuse these participating institutions with all the available Annenberg/CPB materials;
3. using local project directors in each institution, promote awareness and use of the materials among faculty, students, and administrators; and
4. document the activities of the project and distribute the results widely in higher education circles.

The particular issues to be addressed by the project were the

following:

1. patterns of use of the materials,
2. definitions of target audiences,
3. factors which stimulate use,
4. processes involved in materials adoption,
5. impact on the academic program, and
6. financial impact of materials use.

C. Site Selection

As with most research efforts the resources available to support the DUA project were finite. It was clear that it would be too expensive to select a large random sample of colleges and universities from which to generalize to all institutions of higher education. Thus a few sites were chosen to represent different types of colleges and universities. The intention in selecting sites was to choose those that would be representative of certain classes of institutions.

Three types of characteristics were used in decisions concerning site selection: global features of the institutions, aspects of the academic programs, and indicators of prior audio-visual material use. In the first category, i.e., institutional features, five variables were considered relevant: size, geographic location, type of control, minority enrollment, and admissions policy. It was clear that the colleges and universities participating in the DUA should range in size from the very smallest colleges to the largest multiple campus institutions. It was also determined that there should be geographical

distribution of the sites throughout the United States. The sample was also to include both public and private institutions. For a variety of reasons, it was decided that some institutions should be included in the project that have a tradition of admitting mostly minority students. The fifth institutional feature included in the design provided variability in the selectivity of admissions procedures, thus guaranteeing some institutions that select among their applicant pools and others that admit all students who apply.

Among academic program characteristics, three features were considered important to insure variability among project participants. The first was the level of the academic program. The sample was to include colleges that offered two year associate degree programs, four year baccalaureate programs, or graduate and professional programs. The second academic characteristic of importance was the scope of the institution's external degree programs. The third was the extent to which the institution actively sought the enrollment of nontraditional learners. It was important to evaluate institutions that had developed special programs to reach older or distant students, for there was reason to believe that the Annenberg/CPB materials might be specially relevant for these populations.

The last category of characteristics considered in selecting sites was the use of audio-visual materials within the institutions. It seemed appropriate to include in the project at least some institutions that had a tradition of producing and using audio-visual materials. In

this respect, it also seemed useful to obtain variability with respect to the distribution mechanisms used for these materials including such systems as a campus broadcast or cable facility or an Instructional Television Fixed Service (microwave) capacity.

It was determined that it would be useful to select geographic sites that would include a number of colleges and universities. In this way, it was possible to make the materials available to a larger number of institutions. The administrative units within the project then became a geographical location rather than a particular institution of higher education. After much deliberation, the ETS and Annenberg/CPB staffs jointly decided upon five geographically distributed sites for participation in the project. In each of these sites there were multiple institutions or campuses participating in the project.

The first site was in Atlanta, Georgia. It included the four undergraduate colleges that are members of the Atlanta University Center, Clark College, Morehouse College, Spelman College, and Morris Brown College. Because the target audiences for the Annenberg/CPB materials are primarily students enrolled in freshman and sophomore level courses, the graduate and seminary programs, which also are a part of the Atlanta University Center, were not included in the DUA project. The second site was the University of South Florida including the main campus in Tampa and three satellite campuses in St. Petersburg, Sarasota, and Fort Myers. The third site included the members of Five Colleges, Inc. Located in the western part of the Commonwealth of

Table 1.1

Institutional Features

Site	Size	Location	Control	Minority Enrollments	Admissions Policy	Level	Extension Program	Non-Traditional Learners	Audiovisual Use	Distribution System
Atlanta	Small	Southeast	Mix	High	Mix	4 Year	No	Some	Low	Cable
USF	Large	Southeast	Public	Low	Mix	4 Year	Yes	Yes	High	Broadcast, CTFS, Cable
Five Colleges, Inc.	Mix	Northeast	Mix	Low	Selective	4 Year	Mix	Yes	Low	Broadcast, Cable
Seattle	Mix	Northwest	Public	Moderate	Non-Selective	2 Year	Yes	Yes	Moderate	Broadcast, Cable
Wisconsin	Mix	Central	Public	Low	Mix	2/4 Year	Yes	Yes	High	Broadcast, Closed circuit

Massachusetts, this site included Hampshire College, Smith College, Mount Holyoke College, Amherst College, and the University of Massachusetts at Amherst.

The fourth site was a consortium of three community colleges in the western part of the state of Washington. It included Seattle Central Community College, Bellevue Community College in a suburb of Seattle, and Wenatchee Valley College in a rural mountain farming district about a hundred miles east of Seattle. The fifth site included all campuses of the University of Wisconsin System. This University is one of the largest in the nation and includes thirteen four-year campuses and thirteen two-year campuses distributed throughout the state of Wisconsin. Brief descriptions of the institutions and academic programs of each of the campuses, colleges, and universities participating in the DUA project will be given in Chapter Two.

D. Project Design

A key element in the design of the DUA project was to identify a lead institution and local project director at each site. The lead institution was the college or university that accepted responsibility for directing all DUA project activities at that site. It was to receive the copies of the materials and facilitate the duplication of the materials for other institutions at that site. The lead institution also received a small stipend from Annenberg/CPB each year of the project and served as the fiscal agent for the project. The local project director, who was an employee of the lead institution, devoted

the equivalent of 20 percent of his or her time to the project during the academic year.

In the early stages of organizing the project, visits were made by a delegation of Annenberg/CPB and ETS staff to each lead institution. Meetings were held with either the president or the chief academic officer responsible for extended degree programs. Initial visits were made with these administrators to explain the project and obtain their support and cooperation. The primary contact person in each lead institution designated the local project director.

The responsibilities of the local project director were fourfold:

1. to disseminate information to administrators, faculty, and students concerning the availability, content, and potential utility of the Annenberg/CPB materials.
2. to promote widespread and effective use of the materials, both as telecourses as well as supplementary uses, and to challenge faculty to think of ways to use the materials with special populations, e.g., distant learners, senior citizens, prison inmates, hospital patients, corporate employees, and the like.
3. to provide administrative support to individuals using or considering using the materials; and
4. to document all aspects of materials' use and forward this documentation to ETS for subsequent analysis.

The local project directors were advised to consider themselves as "change agents". They were encouraged to play the role of promoter of

educational innovation in the use of audio-visual materials in those segments of the academic community that had previously not been users of such resources. The expectation was that the quality of the Annenberg/CPB materials would attract many new users of audio-visual materials.

As soon as the Project began in the fall of 1985, each local project director was encouraged to develop a strategy to accomplish this fourfold mission in each institution in the sites. Rather than promoting one common approach to dissemination, utilization, and assessment across the five sites, DUA project staff encouraged each local project director to tailor strategies to accomplish the four functions. It was thought that local project directors were better informed concerning conditions at their sites and therefore better equipped to design their own strategies. DUA project staff consulted and advised in this process. In Chapter Two where we shall discuss each of the sites and participating colleges and universities, we will also describe the strategies employed by the local change agents.

Originally the DUA project was planned as a two year undertaking. Those involved in designing the project underestimated the time it would take to disseminate copies of all the Annenberg/CPB tapes and print materials to the five local project directors. In addition, the time required to disseminate the materials among the participating institutions by the five local project directors varied from site to site, but it exceeded expectations across the board. It became clear

halfway through the first year of the project that the materials were just beginning to get into the hands of some teachers. It was obvious that to allow the project greater chance to succeed, it was prudent to extend it for one additional year. Therefore, in the Spring of 1986 the Annenberg/CPB Council approved extending the project to a three year rather than a two year effort. Consequently, the first year of the project was devoted almost exclusively to distribution and promotion of awareness of the materials. Very little use occurred. The data collection procedures were designed and put in place during the first year. However, the data reported is so sketchy for the first year that it is not included in the analyses reported in subsequent chapters.

A major function to be executed by the local project directors was documentation of project activities. ETS staff, Annenberg/CPB staff, and the local project directors jointly developed procedures for the collection of data documenting project activities and patterns of materials use. The data collection procedures were designed to capture information on a variety of topics, including the following:

1. the procedures used for creating awareness of the availability of the materials on each campus;
2. the means by which administrators, faculty, and students learned about the materials;
3. the strategies employed to promote materials use;
4. the decision making process involved in materials adoption;

5. the various patterns of materials use, including both telecourses and supplementary uses.

The resources available to the project prevented an extensive investigation of the impact of materials use on learning outcomes. Annenberg/CPB had funded several other projects designed to look at such learning outcomes. The focus of the DUA project was on promotion strategies and patterns of organizational change, not individual learning. Nevertheless, to the extent that it was possible through interviews with faculty, administrators, and students, relevant anecdotes and impressions of learning effectiveness were collected by local project directors and ETS staff. Furthermore, as individuals in each institution gained experience in using the materials, their suggestions were sought for ways to increase the usefulness of the materials.

The data collection procedures to achieve these objectives can be divided into two categories: those carried out by the local project directors and those carried out by ETS staff. Under the terms of agreement for participating in the DUA project, local project directors were responsible for the collection of three types of data. First, they collected information concerning copying of the videotapes and audiotapes. Each institution was entitled to make and use as many copies as they needed of the tapes provided. Hence, there were no restrictions on any tape copying.

Appendix A contains a copy of the form used for recording duplication

of materials. Local project directors were responsible for making certain that any tapes that were copied in any of the institutions at their site were recorded on these forms. During the course of the project, completed forms were forwarded to ETS at the end of each academic term. The summaries of these tape copying activities are presented below in Chapter Three.

In addition to tape copying, local project directors were asked to keep track of all tape utilization activities. Also included in Appendix A is a copy of the tape utilization summary form. Each time any of the Annenberg/CPB materials was used, the local project director was responsible for seeing that a utilization form was completed. This form recorded detailed information on the type and extent of use of the tapes as well as accompanying print materials. It also recorded information on broadcast or transmission. As with tape copying forms, utilization forms were forwarded to ETS at the end of academic terms.

In the first year of the project, local project directors were also asked to maintain weekly activity logs. The logs were intended to record the major activities of local project directors as well as any significant events which occurred on campuses relevant to the DUA project. The logs were kept with varying degrees of accuracy and appropriateness. At the end of the first year, it was mutually decided by Annenberg/CPB, ETS staff, and the local project directors that the weekly activity logs were not useful. For the remainder of the project, the written activity log was discontinued. However, local project

directors did continue to report to ETS verbally any significant events which occurred on the campus relevant to the project objectives or activities.

The other set of data collection activities relevant to the DUA project was carried out by ETS staff. During each of the three years of the project, ETS staff visited the sites to conduct field interviews and observations. These interviews with faculty, administrators, and students were the main data collection activity for the ETS staff. During the first year of the project, Annenberg/CPB and ETS staff jointly conducted the field visits and interviews. However, it was mutually decided to separate the Annenberg/CPB and the ETS field visits during the second and third years, because the objectives of the two staffs were sufficiently different to preclude efficient interviews. By the beginning of the second year, the ETS staff were primarily interested in documenting project activities, and the Annenberg/CPB staff were appropriately interested in promoting more widespread use of the materials.

Interviews were conducted with students, administrators and faculty --both users and nonusers of the materials. The topics pursued included the following:

1. how they learned of the materials;
2. the ways in which the materials were used;
3. impressions of the materials' impact on learning;
4. suggestions for improving the materials;

5. general views concerning the use of audio-visual materials in higher education; and

6. their experience with interactive computer systems.

Most interviews took one-half hour to complete. With very few exceptions, interviews were conducted jointly by the two authors meeting with one administrator, faculty member, or student at a time. In a few instances, usually with senior administrators, the local project director participated in the interview. This was done to avoid the possible perception that the ETS staff were either reporting secretly to the administrator or seeking information on the performance of the local project director.

Extensive notes were taken by both authors during all interviews. It was felt that tape recording would not be conducive to establishing rapport with interviewees. In instances where a faculty member previously used Annenberg/CPB materials, subsequent interviews were conducted on later visits to the campus to determine additional information on the pattern and impact of the use of the materials. In those instances where a faculty member used the materials only once, follow up interviews were also conducted to gain perceptions of the materials' utility. Interviews with administrators included: presidents, provosts, deans, librarians, staff in the audio-visual media center, and program staff of activities designed to reach special populations of students.

During the course of the three year project, over 250 interviews were

conducted with different individuals in the five sites. Furthermore, over 425 interviews were conducted throughout the project, many of these being repeats with the same individuals.

All data were forwarded to and analyzed at ETS including: tape copy forms, tape utilization forms, anecdotes and critical incident reports from local project directors, and notes from all field interviews and observations. These materials were all reviewed by ETS project staff and used for producing interim and final reports to Annenberg/CPB. Descriptions of each of the institutions, their academic programs, and patterns of use of the materials, form the basis of Chapter Two of this report. Chapter Three is a report of the analysis of the data collected using the tape copying and utilization forms. A summary and conclusions are reported in Chapter Four.

Chapter Two

PARTICIPATING SITES

A. Introduction

In this Chapter we describe briefly the colleges and universities at the five sites participating in the Dissemination, Utilization, and Assessment (DUA) project. In addition to presenting descriptions of these institutions, we also indicate the organizational positions of each local project director and their overall strategies for accomplishing the project's objectives.

As mentioned above, the sites and institutions selected to participate in this project were carefully chosen to represent various types of colleges and universities in the U.S. The descriptions presented in this chapter are intended to portray that variability and diversity. Indeed, it is this heterogeneity in higher education which many claim is the hallmark of post secondary institutions in this nation.

B. Atlanta University Center

In Atlanta the four institutions chosen to participate in the DUA project were Clark College, Morehouse College, Morris Brown College, and Spelman College. These four undergraduate colleges together with three graduate schools, Atlanta University, Interdenominational Theological Center, and the Morehouse School of Medicine form the Atlanta University Center (AUC), the world's largest consortium of historically Black colleges and universities. The AUC was established in 1929 and currently is comprised of a combined total of approximately 800 faculty members and more

than 8,000 students from across the United States and many foreign countries.

The cooperative program developed by the AUC has established a relationship between the seven affiliated institutions that allows each school to retain its independent status while sharing faculty and students. In addition, the institutions share the Robert W. Woodruff Library, a bookstore, and several academic programs. Students registered at any college can, with permission, take courses at any one of the other colleges to fulfill degree requirements. During their senior year, students can take graduate level courses at one of the affiliated graduate institutions. Since the schools are located on contiguous campuses, students from each school can benefit from a liberal arts education at a small college and still have access to the expanded resources available in a larger university complex. Because the target audiences for the Annenberg/Corporation for Public Broadcasting (Annenberg/CPB) materials were undergraduates, it was decided to focus the inquiry in the DUA project on the four undergraduate institutions in the AUC.

The lead institution at the Atlanta site was Clark College, a private coeducational, undergraduate college which offers a liberal arts curriculum to its predominately Black student population. Clark College was founded as "Clark University" in 1869 by the Freedman's Aide Society of the Methodist Episcopal Church in Atlanta. The college was established for the purpose of providing Blacks in the South with formal education. The institution was chartered by the State of Georgia in 1877. The name Clark was given to the

university in honor of Bishop Davis W. Clark, who served as the first president of the Freedman's Aide Society. He worked diligently to build institutions throughout the south to meet the educational needs of Blacks. The college has evolved from a school which originally emphasized the training of teachers and ministers to a college that offers a widely varied curriculum organized into four major divisions: general education, humanities, natural sciences and mathematics, and sociocultural studies. Degrees awarded include a Bachelor of Arts, a Bachelor of Science, and a Bachelor of Social Work.

In 1941 Clark joined the AUC and moved its campus immediately adjacent to the other institutions. At this time, the institution was renamed Clark College. In recent years, many career oriented programs have been added to Clark's traditional liberal arts curriculum. These new programs include: mass communications, business administration, allied health sciences, and public policy. Through its membership in the AUC, Clark also offers programs in computer science and engineering. Clark employs approximately 100 full-time and 20 part-time faculty and the current enrollment exceeds 1,800 students.

The second AUC institution included in the DUA project is Morehouse College, also a private undergraduate liberal arts college. However, Morehouse is a men's college. Morehouse was founded in 1867 in the basement of the Springfield Baptist Church in Augusta, Georgia. It was named after Henry Lyman Morehouse, corresponding secretary of the American Baptist Home Mission Society. Morehouse has undergone a number of transformations from

the Augusta Institute to the Atlanta Baptist Seminary to the Atlanta Baptist College and finally to Morehouse College.

Morehouse leads all predominately Black colleges in the nation in the percentage of Ph.D.s on the faculty as well as in the production of alumni who have become Ph.D.s, physicians, dentists, lawyers, college presidents, and MBAs. It is one of three Black colleges and four Georgia colleges with a chapter of Phi Beta Kappa. Morehouse has over 100 faculty and almost 2,000 undergraduate students. Degrees awarded include a Bachelor of Arts and Bachelor of Science. The academic program is divided into four divisions including: humanities, natural science and mathematics, social sciences, and education. The curriculum also includes business administration, computer science, and engineering. The college has a major in international studies supported by concentrations in African studies, Asian studies, European studies, and Latin American studies. Morehouse also has a junior year abroad program. During the summer, study groups from the college visit countries in the West Indies. In 1978 Morehouse opened its medical school which offered its first MD degrees in 1985. As mentioned above, the medical college is not included in the DUA project.

Morris Brown is the third undergraduate AUC institution. It is also a private four year liberal arts institution. However, unlike Morehouse, Morris Brown is coeducational. It was founded in 1881 by the African Methodist Episcopal Church and still maintains its organizational and financial ties to the church. There are 100 faculty and approximately 1,400 students who come from 35 states and many foreign countries. Degrees

awarded include Bachelor of Arts and Bachelor of Science. The academic program is divided into four units including: humanities, social science, natural science and mathematics, and education and psychology. The academic program at Morris Brown also includes a number of career-oriented majors including teacher education, business administration, computer science, criminal justice, engineering, allied health, and hotel, restaurant, and institutional management. Morris Brown also offers Army, Navy, and Air Force ROTC programs.

The fourth institution participating in the DUA project at the Atlanta site is Spelman College, the nation's oldest historically Black liberal arts college for women. Spelman was founded in 1881 in the basement of the Friendship Baptist Church in Atlanta. It was established by two women from Massachusetts, Sophia B. Packard and Harriet Giles. These two members of the Women's American Baptist Home Mission Society of New England started the school with 11 female students. The curriculum originally consisted of reading the Bible and literacy instruction via writing letters to former slaves who lived in the north. From these humble beginnings, Spelman has grown to a current enrollment of almost 1,500 students from throughout the United States and around the world. It is considered by many to be the preeminent undergraduate Black college in the nation. Spelman offers both Bachelor of Arts and Bachelor of Science degrees. The academic program is divided into five divisions including: humanities, social sciences, natural sciences, fine arts, and education.

These four institutions, Clark, Morehouse, Morris Brown, and Spelman,

comprised the Atlanta site participants in the DUA project. Clark College served as the lead institution, and the nature of its relationship with the other three institutions was that of coordinator and collaborator. During the second year of the project, the president of Clark College announced his intention to resign. A new president was appointed in the beginning of the 1987-88 academic year. With his guidance the trustees of Clark College announced recently that the college and Atlanta University would merge on July 1, 1989. The new institution, Clark Atlanta University, will combine the undergraduate programs of Clark College with the graduate programs of Atlanta University. Together the two institutions will share a $15 million endowment with an annual budget of approximately $30 million. It will serve 1,800 undergraduate students and 1,000 graduate students. This news of the merger and reorganization had very little impact on the DUA project, for it came toward the end of the third year of the project.

Among the four colleges, Clark College was chosen to be lead institution, because it had a large undergraduate major program in mass communications. Furthermore, Clark had extensive facilities for radio and television broadcasting. The college operates the campus radio station for the AUC. In addition, during the three year project, Clark resurrected a cable television broadcasting operation which provided closed circuit TV for the AUC community. Also, the Atlanta Media Project, a citizen-oriented self-help project for community residents emphasizing the media, was also located at Clark College.

The president at Clark College expressed strong interest in having his

institution take the lead among the Atlanta institutions. He designated his special assistant who oversaw a number of academic and extracurricular programs at the college as project director for the DUA project. This person served as project director for the first two of the three years in the project. When the president announced his intention to resign during the third year, local project direction for the DUA was passed on to the faculty member who serves as chair for the Mass Communications Department. This person is also associate director of the Mass Communications Center.

The first project director brought the power and influence of the president's office to bear on the project. This was particularly useful at Clark College, for it became clear to all faculty and administrators that the president's office was solidly behind the project. It also initially facilitated introducing the project to the other three institutions. During the first visit to the Atlanta site the president convened a meeting of senior faculty and administrators from all four participating institutions. The president from Morehouse College attended. The other two institutions sent senior academic administrators. In total, over thirty-five people attended the first orientation session conducted by both ETS and Annenberg/CPB staff.

The initial strategy developed and implemented at Clark was to convene meetings of faculty in various departments and disciplines to preview and promote use of the materials. In addition, arrangements were completed to duplicate copies of the master set of tapes provided to Clark College by Annenberg/CPB. Many faculty at Clark as well as the other three

institutions previewed the materials. Very little interest was shown in using the materials as telecourses. In most instances faculty felt that the tape and print materials would not be appropriate for their students. However, there was substantial interest expressed in previewing the materials for possible supplementary use. The fact that the tapes were stored and available for previewing in the Clark College Mass Communication Center made it somewhat easier for Clark faculty to review and consider supplementary use. Faculty in the other three institutions had somewhat greater problems in reviewing the materials.

The basic strategy at Clark was to contact faculty members directly and make it possible for them to review and consider using the materials. The outcome of this strategy at Clark will be reported in detail in the next chapter.

C. Western Massachusetts

Five Colleges, Inc. is a consortium of institutions of higher education in western Massachusetts that sponsors a variety of cooperative programs and enterprises. These five institutions comprise the western Massachusetts site of the DUA project. They are Amherst College, Hampshire College, Mount Holyoke College, Smith College, and the University of Massachusetts at Amherst. The goal of cooperation among the five colleges is to enrich the educational opportunities available to all members of the academic communities by providing common access to the resources of all five institutions. Students are encouraged to participate in a course

interchange program for which there are no additional costs. They also have free access to all the libraries in each institution.

A monthly calendar of academic and extracurricular activities is published and distributed to all members of the five college community. Access to the campuses is facilitated by a free busing service connecting all five campuses. An FM radio station supported by all five colleges is operated by the University of Massachusetts. The five colleges also jointly publish a quarterly review of literature, arts, and public affairs. There are two joint departments among the five colleges--astronomy and dance--and there are coordinated programs in Afro-American studies, East Asian studies, and Latin American studies and linguistics. Joint faculty and senior appointments made across the five colleges add to the intellectual depth of the community. A cooperative Doctor of Philosophy program has been established by the five colleges. The degree is awarded by the University of Massachusetts, but the work leading to the degree can be done in one or more of the other institutions.

Among the five colleges, Hampshire College was chosen to play the role of the lead institution for the DUA project. Since it first admitted students in 1970, Hampshire College has had an interest in and emphasis on audio-visual materials and mass communication. At the time of construction of the first residence and classroom buildings, cables were laid to connect all dormitory rooms and classrooms to a central library, audio-visual, television, and computing facility. Hampshire College has substantial radio and television production and transmission facilities which are used

extensively by students and faculty. It therefore was an obvious choice for Hampshire to play the lead role in the DUA project.

Hampshire is the youngest of the Five College institutions. It was founded in 1965 by the presidents of the four other schools. At their instigation a committee of their faculty was appointed to reexamine the assumptions and practices of education in the liberal arts. The committee was charged to consider the design of a new kind of undergraduate institution. The committee's report entitled "The New College Plan" proposed a major departure in higher education and these concepts formed the basis for many of Hampshire College's features. Supported with a generous gift from an Amherst College alumnus, Harold F. Johnson, Hampshire has grown substantially in the first twenty years of its existence. Over 100 faculty now work closely with the 1,000 male and female students at the college.

The academic program at Hampshire College is probably unique in higher education in the United States. Students participate in highly individualized programs of study. Small classes, seminars, interdisciplinary work, and close collaboration with faculty characterize the Hampshire academic program. Students assume considerable responsibility for shaping their own education. The intellectual environment at Hampshire encourages resourcefulness, independence, and self-discipline. The original plan for Hampshire eschewed the traditional freshman-to-senior college sequence. Hampshire students pass through three stages or divisions as they progress toward their baccalaureate degrees. Division I studies entail meeting the kind of distribution requirements that are typical in

undergraduate liberal arts programs. Students must complete studies across a broad range of science, social science, and humanities subjects. Division II studies involve more in-depth work in the student's area of concentration. This is similar to the work undertaken by someone majoring in a particular subject in the junior and senior year. Division III studies, which are unique to Hampshire, require all students to engage in advanced research activities and complete a substantial scholarly paper. In some respects, Division III is comparable to an honors program, but at Hampshire all students complete Division III theses. Furthermore, most of the Division III theses represent work which is far more advanced than that typically found in undergraduate honors papers. Many Hampshire students achieve levels comparable to graduate degrees in their Division III work.

Hampshire's academic program is organized into four schools: humanities and arts, natural science, social science and communications, and cognitive science. Within this structure students take courses, design and carry out individual projects, do field work, complete internships, and conduct their individual research projects.

Amherst College is the second member of the Five Colleges Inc. consortium participating in the DUA project. Amherst is an independent liberal arts college for men and women. It was founded in 1821 as a non-sectarian institution for "the education of indigent young men of piety and talents for the Christian ministry". For many years Amherst admitted only males. However, in 1975 Amherst College became a coeducational institution.

There are over 1,600 students at Amherst and 150 faculty. The Bachelor

of Arts degree is awarded to all graduates. An honors program is available, and in recent years more than half the graduation class have completed honors work. The flexible Amherst curriculum enables students to plan and accomplish their own educational objectives. Within established guidelines students work with faculty to design and complete their programs. During junior and senior years, students make ample use of independent study courses. In these they are free of the requirement of attendance at formal classes and work substantially on their own. Students are encouraged to arrange their work to include in-depth study in a particular subject.

Mount Holyoke College, a third member of Five Colleges Inc., is an independent liberal arts college for women. Founded in 1837, Mount Holyoke is one of the oldest institutions of higher education exclusively for women in the United States. There are approximately 2,000 students and 210 faculty members. The students at Mount Holyoke also are responsible for planning and achieving their own educational goals. A great deal of importance is placed on independent study in the academic program. Mount Holyoke offers a Bachelor of Arts degree and conducts a small graduate level program leading to a Master of Arts.

Smith College, the fourth undergraduate institution included in Five Colleges Inc., was founded in 1873. Today the institution accommodates over 2,600 women students and employs over 250 faculty members. Smith offers a strong liberal arts curriculum with majors in literature, historical studies, social science, natural science, mathematics, fine arts, and language studies. The primary academic program at Smith leads to a Bachelor

of Arts degree. As with Holyoke there is a small graduate program leading to a Master of Arts degree. Smith also runs a unique Master of Social Work program involving two summers of full-time work on campus and one academic year of part-time study. In recent years Smith has become well known for its Ada Comstock Program. This program provides opportunities for older women to initiate or continue and complete their undergraduate work.

The fifth and largest Five Colleges member participating in the DUA project is the Amherst campus of the University of Massachusetts. The Amherst campus is the original and largest of the three campuses of the university. The university was founded in 1963 as the land grant institution of the Commonwealth of Massachusetts. There are over 20,000 male and female students and 1,200 faculty members. University of Massachusetts offers baccalaureate programs in arts, science, fine arts and music, and business administration. Graduate programs lead to a Master of Arts, Master of Science, Ph.D., and Ed.D. degrees.

Together the Five College institutions enroll over 34,000 students. The combination of four private colleges and one large public university provides an interesting blend of academic programs and student bodies. As mentioned above, Hampshire College was chosen as the lead institution for the DUA project. The local project director at the western Massachusetts site was a graduate of Hampshire College. When first appointed to serve on the DUA project, this person was teaching in the Women's Studies Program at the University of Massachusetts. For the second and third year of the project, she held a position as an assistant professor in history at

Hampshire College. Because the DUA project enjoyed the very strong support of the President of Hampshire College, the local project director was in a strong position to influence and assist Hampshire faculty and administrators.

The strategy employed by the local project director in western Massachusetts was to use the tape duplication facilities at Hampshire College to provide copies of the audio-visual tapes to interested faculty throughout the five college community. A key element in the distribution and use of tapes was the Audio-visual Media Center located in the main library at the University of Massachusetts. This facility has a large and actively used collection of audio-visual materials for the University of Massachusetts community. The addition of the Annenberg/CPB tapes to this collection was welcomed and readily incorporated into the existing collection, with specific procedures for promotion and circulation.

The approach employed by the local project director in western Massachusetts was to activate the already existing disciplinary groups of faculty members across five college institutions. The geology faculty has been particularly active in recent years with seminars, meetings, and joint activities. This was the first group that the local project director convened to preview Annenberg/CPB tapes. Subsequently groups were called together in psychology, language instruction, and physics. Details on tape copying and patterns of utilization will be presented in Chapter Three.

D. University of South Florida

The third site included in the DUA project is the University of South Florida (USF). This multisite institution has its headquarters on its largest campus in Tampa. There are three satellite campuses in St. Petersburg, Fort Myers, and Sarasota. USF is frequently called "the state's first metropolitan university, a prototype of the university of the future". Established in 1956 as a comprehensive multicampus institution, USF offers bachelor to doctoral degrees and services a fifteen county area in southwest Florida. Total enrollment exceeds 31,000 students, and there are over 1,000 teaching and research faculty. At the Tampa campus, there are 27,000 students.

University of South Florida is an institution that services what used to be called a nontraditional student population. Sixty-seven percent of the students live at home and commute to the university. One third are enrolled part-time. Over forty percent of the students are employed. Thirty-three percent are married, and the average student age is 27 years. Most of the students are pursuing academic programs preparatory to professional and managerial graduate training and careers. This profile of professionally oriented, older, married, employed, part-time, commuting students is increasingly becoming common in many urban institutions of higher education. It is also becoming more typical of many colleges and universities throughout the nation.

Eleven colleges comprise the academic program at USF including: arts and letters, business administration, education, engineering, fine arts,

medicine, natural sciences, nursing, public health, social and behavioral sciences, and an honors program at New College on the Sarasota campus. The main campus in Tampa contains the university administrative offices, the main library collection, and the offices of the undergraduate colleges and the graduate and professional schools. Programs offered on the Tampa campus are four years and graduate level, and the regional campuses are also four years, but intended primarily for upper division; i.e., junior and senior level and graduate programs.

In Florida many students take advantage of the extensive community college system which offers lower division; i.e., freshman and sophomore level programs leading to the associate degree. Tuition in the community colleges is much lower than in the state universities. After completing the equivalent of two years full-time study in a community college, many students then transfer to the University of South Florida to complete their baccalaureate work. Graduates of any accredited community college in the state of Florida are entitled to admission at USF as upper division students.

At the St. Petersburg campus of USF, there are approximately 2,800 students. Bachelors degrees are offered in twenty-six different fields and graduate programs leading to masters and doctoral degrees are offered in three fields. Most the students hold full-time jobs, and they are part-time students, usually attending evening or weekend classes. As on the Tampa campus, most of the students are older and career-oriented in their studies. There are 38 local or resident faculty at the St. Petersburg campus. These

individuals teach approximately fifty of the two hundred courses offered on this campus. The remaining courses are taught by faculty who are resident on other campuses; almost all are from the main campus at Tampa.

Faculty appointments throughout the USF system are university-wide. Departments exist across all campuses. Academic supervision is exercised by the university-wide departmental chairs. Appointments, promotions, and terminations are departmental matters. Although academic matters are supervised by the university-wide departments, the satellite campus administration exercises nonacademic supervision. Hence, there is a dual hierarchy and reporting structure for satellite campus faculty.

The Sarasota campus of USF is an institution of higher education that has a truly bimodal character. Two very different academic programs operate on this campus. The first is the set of university programs consisting of upper division and graduate level courses. Almost all the 2,100 students in this program are part-time. Collectively they account for 475 full-time equivalents. Fifty percent of the students are enrolled in a bachelor degree program in business administration. A few part-time graduate students are in the MBA program. Another thirty-five percent of the Sarasota students are in the college of education seeking teacher certification.

The second major academic program at Sarasota is New College, a program unique within USF. New College was established as a small, private, liberal arts college in 1956. By the early 1970s it was struggling to keep itself afloat financially. At this time USF was prevailed upon by a number of

supporters of New College in Sarasota to incorporate its program within the university structure. However, at the same time they wanted to maintain the autonomy and visibility of New College as a separate institution. The merger was accomplished in the mid 1970s, and USF has been steadfast in its efforts to allow New College to maintain its independence within the university structure.

New College currently has close to 500 students, all participating in an undergraduate liberal arts honors program. It emphasizes a traditional, liberal arts curriculum but gives students major responsibility for defining and attaining their own academic goals. Student faculty ratio at New College is approximately eight students for one professor, a ratio which is remarkable in higher education today. As mentioned above, USF faculty are affiliated with system-wide academic departments. At New College faculty members are independent, they are hired, evaluated, and promoted only by New College peers and administrators. From time to time New College faculty may assist in conducting a course within university programs at Sarasota. However, they still maintain their autonomy within the USF system.

The Fort Myers campus of USF is one of the newest satellite units. It opened in September of 1974 and now occupies permanent facilities on a fifty-five acre site adjacent to a local community college. The two institutions cooperate and share facilities including: a common library, classrooms, and a joint student center. The academic program at Fort Myers complements and is a continuation of the community college program. Most of the 1,500 students in the Fort Myers campus are majoring in education and

business administration.

In addition to all the many programs on the four campuses, USF also has a large school of extended studies, Open University, which serves residents in southwest Florida. Programs at USF are designed to meet special needs of the students, particularly with respect to time restrictions. The university facilitates full or part-time enrollment. It also permits dual enrollment on multiple campuses. Since the opening day, USF has conducted evening courses, weekend college programs, noncredit courses, cooperative education programs, and various types of outreach programs to residents in its fifteen county area.

The University of South Florida was chosen to participate in the DUA project primarily because its Open University program has extensive experience and an international reputation as a large scale producer and user of high quality audio-visual materials for higher education. The Open University at USF is a world-renowned center which for the past ten years has served students who wish to take courses broadcast by the USF television station. In recent years, these courses have also been carried by the Tampa educational consortium cable channel. However, over ninety percent of the students who have taken telecourses in the past two years are enrolled at the Tampa campus. In fact, there is very little use of any audio-visual materials on the satellite campuses.

The Open University is designed for the person who is unable to attend on-campus courses. Classes are conveniently broadcast on weekday afternoons and weekends, with several repeats of each course program. Many

students record the broadcasts on their video cassette recording machines at home and view the courses at their convenience. Most Open University courses can be used to fulfill general distribution or major requirements for most degree programs. Some Open University courses may also be used by Florida teachers to extend their teaching certificates.

Open University maintains a policy that class attendance is not required for most of its courses. Students must complete some combination of quizzes, papers, special projects, and examinations to receive credit for the course. However, it is possible to complete an Open University course without ever attending a single class session. Many faculty who offer Open University courses, however, call optional class meetings for the purposes of course introduction or review prior to examinations.

The local project director for the USF site was the director of Open University. This individual also holds an appointment as a professor in the School of Education and, therefore, enjoys the status and influence of a senior faculty member. As director of Open University, he was in an ideal position to serve as the change agent for the DUA project. The addition, at no cost, of the entire Annenberg/CPB collection to the Open University collection of audio-visual and telecourse was most welcomed. The organizational structure to receive and distribute all the materials for telecourse or supplementary use was already in place.

The strategy employed by the local project director was to approach personally first deans, then departmental chairs, and finally individual faculty members who taught courses in areas in which the Annenberg/CPB

materials might be used. In promoting consideration of the use of materials as a telecourse, he recruited faculty members who would take responsibility for a telecourse offered under the auspice of the Open University. In encouraging the use of materials to supplement on-campus courses, he canvassed a large number of faculty in whose courses some portions of the materials might be relevant. The resulting patterns of materials' use from these efforts are reported in the next chapter.

E. Washington State Community Colleges

The fourth site for the DUA project was a consortium of three community colleges in the western part of the state of Washington, each serving distinctly different student populations. The lead institution was Bellevue Community College, a two-year institution located in an affluent suburb of Seattle. The second institution was Seattle Central Community College, a two-year institution offering a variety of vocational and academic programs to innercity Seattle residents. The third institution, Wenatchee Valley College, is a smaller two-year institution serving students in a primarily rural and agrarian community, approximately 100 miles east Seattle.

Bellevue Community College also was serving as the headquarters site for the Puget Sound Telecommunication Center. This center was established to provide leadership and coordination for the development of educational telecommunications in the greater Puget Sound region. The focus of the center is to broadcast telecourses to locations throughout the western part of the state to reach students who cannot or do not want to attend regular

classes on campus. This includes distance learners, people at work, residents of nursing or retirement homes, the homebound for whatever reason, and frequently people who may feel intimidated by a college campus environment.

The Puget Sound Telecommunications Center coordinates regional broadcast schedules and the promotion, leasing, and duplication of telecourses for member institutions. There are twenty members of the center, nineteen of these are community colleges, and one is a four-year college. Both Seattle Central Community College and Wenatchee Valley College also are members.

As with the other sites in the DUA project, Bellevue, Seattle Central, and Wenatchee all received free access to all the Annenberg/CPB materials. To facilitate further distribution and use of these materials Annenberg/CPB agreed to allow all other members of the Puget Sound Telecommunications Center free access to the materials for the life of the DUA project. However, site visits and data collection occurred only at Bellevue, Seattle Central, and Wenatchee.

Bellevue Community College, the lead institution in the Washington state site, was founded in 1966. It exists on a 96 acre site in an upper middle class, suburban community. Four hundred and twenty-eight faculty members conduct courses for approximately 6,000 students. The academic program at Bellevue encompasses four divisions: an arts and science program for students intending to transfer to four-year institutions; a general studies program intended as a terminal degree; associate degree programs in

business administration, engineering, and physical education; and an occupational education program for a wide variety of vocational areas. These occupational programs tend to stress white collar rather than blue collar careers including: criminal justice, data processing, interior design, nursing, real estate, and recreation. Almost all students at Bellevue are part-time. The local project director for the Washington state site was based at Bellevue. She also served as director of the Puget Sound Telecommunication Center.

The Bellevue Community College telecourse program uses three delivery systems, including Seattle Public Broadcasting TV Channel 9, KCTS; Cable Learn, an educational cable channel originating at the University of Washington; and Bellevue Community College's own cable channel. The latter is used to broadcast telecourses offered by Bellevue Community College to its students.

Seattle Central Community College is the second institution in the Washington state site. Seattle Central is one of three separate campuses to make up the Seattle Community College district. The other two campuses are North Seattle and South Seattle. Together they serve over 20,000 students. At Seattle Central, the only one of the three included in the DUA project, there are approximately 8,000 students enrolled. These enrollments comprise 5,500 full-time equivalent students, and there are 285 full-time equivalent faculty.

Seattle Central was established in 1966. As its name implies, the 17 acre campus is situated near the downtown business district. Almost half

the Seattle Central students are taking academic subjects in precollege programs with the intention of transferring to four-year institutions. The remaining half of the students are enrolled in vocational programs including: business, data processing, and health services. Over half the Seattle Central students are females. Almost forty percent of the students are minority, and Asian Americans are the largest group. Seattle Central students are older than the traditional college age. Over forty percent are between the ages of 21 and 29, and more than a quarter of the students are older than 30 years. Almost all Seattle Central students are part-time; fewer than ten percent carry in excess of twenty credit hours.

The third community college in the Washington state site is Wenatchee Valley College. Opened as a private institution in 1939, Wenatchee later became a two-year publicly supported community college serving north central Washington. Now part of the state-wide community college system, Wenatchee is the only institution serving the post secondary education and training needs of a rural area which consists of more than 10,000 square miles. It is primarily agricultural. To serve better its constituency, Wenatchee maintains a small satellite campus in Omak. Throughout its history Wenatchee has maintained close ties with the community, offering a variety of programs and services in response to the educational needs of the people within its far flung district.

In 1951 the college moved from its downtown Wenatchee location to its present site, a 56 acre campus in the foothills overlooking the town and the Wenatchee River Valley. The agriculturally oriented region which the

college serves is noted for its varied and picturesque geography, as well as for its abundant year round outdoor recreation.

Most Wenatchee students are part-time and older than traditional college age. Approximately half the students are enrolled in academic programs and intend to transfer to four-year institutions. The occupational programs of Wenatchee include training for both white and blue collar careers. In addition to the usual community college occupational programs, such as business administration, law enforcement, nursing, etc., Wenatchee also has several programs specific to the local area including: fruit tree production, ski instruction, and recreation area management.

Wenatchee has undergone a number of difficult organizational transitions in recent years. After an eight year tenure, the previous president of the college resigned in the summer of 1986. During his tenure, he had alienated most of the faculty; and there was little disappointment at his departure. The new president appointed from another community college in the state has quickly gained the support of most administrators and faculty.

About midway through the tenure of the previous president, the state reduced its support for the college by almost one half. Faculty were reduced from 100 to 50 and student enrollment dropped below 900. However, the college has started to expand again. Fall enrollment in 1986 exceeded 1,750, and by 1987 it reached 2,800. Where the previous president substantially cut back faculty positions in the academic programs, the new president is planning expansion, particularly in the arts and the

humanities. Faculty now number 140. The morale on the college campus is again optimistic and the faculty are enthusiastic about the future.

F. University of Wisconsin System

The fifth site participating in the DUA project is the University of Wisconsin System, including thirteen four-year campuses and thirteen two-year campuses. Faculty in all twenty-six institutions were given unlimited access to all the Annenberg/CPB materials. The four-year campuses include: Madison, Milwaukee, Eau Claire, Green Bay, La Crosse, Oshkosh, Parkside, Platteville, River Falls, Stevens Point, Stout, Superior, and Whitewater. The two-year campuses include: Baraboo/Sauk County, Barron County, Fond du Lac, Fox Valley, Manitowoc County, Marathon County, Marinette County, Marshfield/Wood County, Richland County, Rock County, Sheboygan County, Washington County, and Waukesha County.

The University of Wisconsin System was created in 1971 by a state law which combined Wisconsin's two large public university systems. The first was the University of Wisconsin, and the second was the Wisconsin State Universities. After 1971 both were governed by a single board of regents. The premerger University of Wisconsin was created by state law in 1848. Located in Madison, it admitted its first students in 1848 and served for many years as the land grant institution for the state. Other members of the University of Wisconsin System prior to the merger included: Milwaukee, established in 1956; Green Bay, established in 1968; and Parkside, established in 1969. In addition, the premerger University of

Wisconsin consisted of ten freshman and sophomore centers distributed throughout the state.

The other large public university system that was merged in 1971 to form the current system was the Wisconsin State Universities. This system grew out of the normal schools created for training teachers. The first normal school was opened in Platteville in 1866. In 1964 the nine normal schools were renamed the Wisconsin State Universities. At the time of the 1971 merger into the University of Wisconsin System, the Wisconsin State Universities included nine four-year campuses and four freshman and sophomore branches. At the time of the merger, both the University of Wisconsin and the Wisconsin State Universities enrolled approximately 65,000 students each.

Today the University of Wisconsin-Madison is still the largest and flagship institution. Its enrollment is approximately 44,000 students and there are 2,350 faculty. There are 152 undergraduate majors leading to a bachelor degree. Undergraduate programs exist in agricultural and life sciences, allied health professions, business, education, family resources, letters and science, nursing, and pharmacy. Masters degrees are available in 193 disciplines, and Ph.D.s are granted in 123 fields. In addition, there is a medical school, law school, and a school of veterinary sciences. The Madison campus also is the site of a public TV station which covers a sixty-mile radius.

The second largest campus with approximately 25,000 students and 1,000 faculty is the University of Wisconsin-Milwaukee. The academic program

consists of 81 undergraduate majors, 45 masters degree programs, and 17 doctoral programs. The next largest campus in the University of Wisconsin System is Oshkosh with 12,000. The enrollments in the remaining institutions vary between 11,000 and 2,000. Total enrollment for the entire University of Wisconsin System is 164,500 students, excluding extension students.

The University of Wisconsin Extension is a major activity which enrolls 1.2 million students each year. Extension offers continuing education to citizens throughout the state. Students are permitted to take courses and earn credits toward degrees through the various programs. A general studies with individualized areas of emphasis program is operated by the Green Bay campus. An extended degree program in business administration is operated by the Platteville campus. An extended degree program in agriculture is offered by River Falls, and an individualized major program is available through the Superior campus. The extension program is supported by a state-wide radio and TV network.

The local project director for the University of Wisconsin System is a special assistant to the vice president for University Relations in the system office. University Relations is concerned with representing the University of Wisconsin System to federal and private funding source, the state legislature, the citizens of the state, and to the public generally. It has an elaborate structure to promote effective communications with all these constituencies. It also has responsibility for the operation of the University's radio and TV stations. Relationships with legislators and

voters are a very salient issue for all public institutions and the University of Wisconsin manages this extremely well.

The placement of the DUA project local director in University Relations was a most fortuitous decision. This individual was able to use an existing structure within the University of Wisconsin System to inform administrators and faculty of the DUA project and the availability of the Annenberg/CPB materials. He also was able to promote materials use in a wide variety of academic programs, including extension.

We turn now to an analysis of the data collected describing tape copying and utilization patterns of the Annenberg/CPB materials in all institutions included in the five sites.

Chapter Three

PATTERNS OF MATERIALS USE

A. Introduction

In this chapter we present data describing the patterns of use of the Annenberg/Corporation for Public Broadcasting (Annenberg/CPB) Project materials in the five sites participating in the Dissemination, Utilization, and Assessment (DUA) project. These data are extracted from Tape Copying Summary forms and Utilization Summary forms completed by staff at each of the five sites. The data are taken also from the interviews conducted by Educational Testing Service (ETS) staff during field visits.

It should be pointed out that the purpose of the analyses presented here is to shed light on strategy issues for promoting more widespread and effective use of audiovisual materials and more generally to facilitate change in higher education to employ new technologies in teaching and learning activities. There is no attempt to evaluate any college or university. Nor is there any implicit or explicit judgement of the performance of any institution or individual in the DUA project.

As can be seen from the data collection forms in Appendix A, the local project directors were asked to gather and forward to Educational Testing Service (ETS) a substantial amount of information about tape copying, telecourse and supplementary uses of the course materials, course enrollments, course formats, academic departments using the materials, use of print materials, and noncurricular uses. All these data are reported in this chapter. However, not all results will be presented in tabular form. The amount of data for each site that has been analyzed is enormous. Only those patterns that are particularly enlightening are presented in tables. Other results will be discussed in the text.

B. Tape Copying

Tables 3.1 and 3.2 present data on the tape copying done by all colleges and universities in the five sites over the three year period of the project. Table 3.1 includes information on the duplication of complete sets of the Annenberg/CPB materials, and Table 3.2 presents the data on duplication of partial sets; i.e., some but not all the tapes in a course.

During the life span of the DUA project, 667 complete sets of the materials were duplicated. However, the distribution of tape copying is very unevenly distributed across the five sites. University of Wisconsin System accounts for 65 percent of all complete set duplication. Of course, the Wisconsin site has a much larger number of institutions, faculty, and students than the other four sites. This pattern of the largest numbers from Wisconsin is found throughout these analyses. Table 3.1 also shows that the other four sites made far fewer copies. This was especially true of the Atlanta colleges and University of South Florida (USF).

The frequently copied courses were French (51), Africans (50 copies), Economics U$A (48), Brain (45), and Planet Earth (44). The series least frequently duplicated were some of the materials released during the later stages of the DUA project, including Voices & Visions (32), For All Practical Purposes (27), and Legacies (15). In general, the audio-based courses were much less frequently duplicated--China/Japan (8), Psychology (5), Modern Literature (4), Western Europe (4), History I (3) and History II (1). The audio course, Sociology, was never copied during the project.

The major observation to be made from Table 3.2 is that there was very little partial set copying. Only University of Wisconsin, and to a very

limited extent the Massachusetts institutions, engaged in any partial copying. There were no partial sets copied among the Atlanta colleges, the Washington state community colleges, nor USF. However, at the various branches of University of Wisconsin copies of partial sets were frequently made.

On the basis of comments made by people interviewed in Wisconsin and Massachusetts, it appears that partial sets were made in response to requests from faculty members who planned to use selected tapes as supplementary materials in their courses. Most planned to show the tapes or portions of the tapes during meetings of regularly scheduled on-campus classes. They reported that they felt that the tapes were more effective in presenting certain topics in their courses than previously used methods.

It appears that one can reasonably assume that partial sets of tapes are being used as supplementary materials. However, it is not valid to assume that all complete set duplications are being used as telecourses. In response to a query to local project directors on this pattern, many replied that from their perspective there was very little extra effort or cost involved in making complete sets. Therefore, in anticipation of receiving a later request for other segments of the series, they frequently converted orders for selected tapes in a series into an order to duplicate the entire series. We turn now to review data documenting how these materials were used.

Table 3.1

Tape Copying Summary

Complete Sets

	Atlanta	Massachusetts	USF	Washington	Wisconsin	Total
Africans	0	18	2	7	23	50
Brain	2	12	6	7	18	45
China and Japan	0	0	2	0	6	8
College Algebra	0	0	0	0	1	1
Congress	0	5	4	5	11	25
Constitution	0	6	2	6	18	32
Economics U$A	0	9	3	7	29	48
Economics U$A*	0	0	0	0	9	9
French	1	12	0	3	35	51
French*	0	0	0	0	28	28
History I*	0	0	0	0	3	3
History II*	0	0	0	0	1	1
Legacies*	0	0	3	0	12	15
Mechanical Universe I	1	13	2	6	17	39
Mechanical Universe II	0	0	1	3	9	13
Modern Literature*	0	0	0	0	4	4
New Literacy	2	2	3	4	6	17
Planet Earth	0	14	6	4	20	44
For All Practical Purposes	0	3	0	4	20	27
Psychology*	0	0	0	0	5	5
Voices and Visions	1	6	0	3	22	32
Western Europe	0	0	2	0	2	4
Write Course	1	3	1	6	14	25
Writers Writing	1	3	1	5	16	26
Totals	9	106	38	70	435	667

*Audio course

Table 3.2

Tape Copying Summary

Partial Sets

	Atlanta	Massachusetts	USF	Washington	Wisconsin	Total
Africans	0	0	0	0	1	1
Brain	0	0	0	0	2	2
College Algebra	0	0	0	0	1	1
Congress	0	0	0	0	2	2
Constitution	0	0	0	0	2	2
Economics U$A	0	0	0	0	5	5
French	0	0	0	0	26	26
French*	0	8	0	0	1	9
History I*	0	0	0	0	2	2
Mechanical Universe I	0	0	0	0	16	16
Mechanical Universe II	0	0	0	0	20	20
Modern Literature*	0	0	0	0	1	1
New Literacy	0	0	0	0	2	2
Planet Earth	0	0	0	0	4	4
Practical Purposes	0	0	0	0	8	8
Psychology*	0	0	0	0	2	2
Sociology*	0	0	0	0	4	4
Voices and Visions	0	1	0	0	1	2
Write Course	0	0	0	0	7	7
Writers Writing	0	0	0	0	3	3
Totals	0	9	0	0	110	119

*Audio course

C. Telecourse and Supplementary Use

Tables 3.3 through 3.7 show breakdown of telecourse and supplementary uses in the five sites for the second and third years of the DUA project. Data were not collected on utilization during the first year, since most of that time was spent on duplication and distribution of tapes and getting the project organized at each site.

Levels of telecourse and supplementary use varied substantially from site to site, and there were interesting patterns of different uses among the sites. At the University of South Florida, only telecourse uses were reported, no supplementary uses. At the Atlanta colleges, only supplementary uses were reported, no telecourse uses. The same was true for the Massachusetts institutions, with the exception of the telecourse uses of French in Action reported by the University of Massachusetts. The Washington State and Wisconsin institutions on the other hand, reported both telecourse and supplementary uses of the materials. In Washington, two-thirds of the reported uses were supplementary uses and in the Wisconsin system that ratio reached 95 percent.

The prevailing pattern of use among the institutions involved in this project was supplementary use. The University of South Florida was the only exception to this pattern. A comparison of data for 1986/87 with data for 1987/88 revealed no difference at the Atlanta and South Florida sites, virtually no difference at the Massachusetts site (with the one exception of course use of French in Action during the second year), clear growth in use at the Washington State site, especially supplementary uses, and a slight decline in use at the Wisconsin site.

The data, and subsequent interviews with site directors and faculty, revealed that many faculty are interested in using Annenberg/CPB materials. It should not be surprising that the dominant pattern of interest is supplementary use since that is the way most faculty use audiovisual materials. And supplementary use permits the faculty member to retain full control over the design and content of the course, whereas some faculty believe that they sacrifice some of their professional prerogatives by agreeing to offer complete telecourses.

This project found that many faculty were as willing to consider including Annenberg/CPB materials in their courses as they are willing to review new print materials for their courses. However, the project also revealed an inherent barrier to the adoption of audiovisual resources, namely, that it is difficult and time-consuming to review them. In the case of print materials, such as a new textbook, the faculty member can review the materials in a familiar and efficient manner by skimming the table of contents, index, and references, and deciding whether or not to review it in more depth.

In the case of audiovisual material, however, the faculty members must arrange for preview facilities and has no easy way to skim the materials. Given the volume of materials for each course, the time requirement was often significant. Written descriptions and endorsements of the materials might be of some help, but few faculty involved in this project were willing to make a decision without personally reviewing most of the materials. However, the press of other academic responsibilities often precluded such reviews. We are convinced that this is a major barrier to even wider the use of Annenberg/CPB materials.

The case of USF is an unusual exception to the general use pattern. Despite repeated efforts of the local site director to encourage supplementary use of the materials, no such use was reported during the project. Many faculty promised to review the materials and consider using them in their courses but it appears that those uses never materialized.

This project found strong administrative support at the Washington State community colleges for the concept of offering telecourses based on Annenberg/CPB materials. Interviews with administrators in the community colleges revealed a very strong expectation on the part of many that telecourses would be ideal for their institutions. First, they expect their students would prefer the flexibility of scheduling and avoidance of travel afforded by telecourses. Furthermore, they anticipated that telecourse enrollments in courses would be greater than those in traditionally taught courses. Finally, the administrators anticipated that the costs associated with offering and administering telecourses might be less than the traditional format. In Washington state community colleges, as in many other public institutions, annual budgets are based on enrollments of the previous year. Therefore, any administrator who has aspirations to expand his or her programs is keenly interested in anything that will increase enrollments. Many deans of instruction, the chief academic officers in community colleges, view telecourses as a way of increasing their budgets.

Interviews with faculty in some colleges in Washington reveal that frequently a great deal of administrative influence was exerted on faculty to use Annenberg/CPB materials in telecourses. We know of three such instances in which the faculty members complained of what they called "undue influence

to use materials with which they were not completely happy". While that might account, in part, for the substantial telecourse use by those colleges, it does not explain the equally strong use at USF.

It is interesting to note, however, that the Washington community colleges are the only institutions in these five sites which experienced a substantial growth in the use of materials between the 1986-87 and 1987-88 academic years. With the exception of the addition of French in Action at the University of Massachusetts and a drop in use at Wisconsin, all other institutions in the DUA project show very little change in the level and type of use between the two years. In the Washington State community colleges, however, both telecourse and supplementary use increased substantially in the last year of the project, as did enrollments in the telecourse. On the basis of our interviews with faculty in these institutions, we speculate that the increase in use in the community colleges is the faculty response to administrator encouragement to use the materials.

In summary, this project found that the faculty are using the materials, but not in precisely the way the Annenberg/CPB Project might have originally envisioned. However, from the viewpoint of the Annenberg/CPB Project, it should be gratifying to see that the materials are being widely used, and that the growth in supplementary use between the two years was remarkable.

Table 3.3

Atlanta Colleges
Utilization Summary

	1986/87		1987/88	
	Course Use	Supplementary Use	Course Use	Supplementary Use
Brain	0	1	0	0
French	0	0	0	4
Mechanical Universe	0	4	0	2
New Literacy	0	2	0	2
Write Course	0	2	0	1
Writers Writing	0	2	0	1
Totals	0	11	0	10

Table 3.4

University of South Florida
Utilization Summary

	1986/87		1987/88	
	Course Use	Supplementary Use	Course Use	Supplementary Use
Africans	2	0	2	0
Brains	2	0	2	0
China and Japan*	1	0	0	0
Congress	1	0	0	0
Economics U$A	1	0	2	0
Legacies*	0	0	1	0
New Literacy	2	0	2	0
Planet Earth	2	0	1	0
Western Europe*	1	0	1	0
Totals	12	0	11	0

*Audio course

Table 3.5

Western Massachusetts
Utilization Summary

	1986/87		1987/88	
	Course Use	Supplementary Use	Course Use	Supplementary Use
Africans	0	1	0	4
Brains	0	1	0	0
Congress	0	1	0	0
Constitution	0	3	0	4
French	0	0	23	2
Economics U$A	0	1	0	0
Mechanical Universe	0	3	0	1
New Literacy	0	2	0	0
Planet Earth	0	3	0	0
Practical Purposes	0	0	0	1
Totals	0	15	23	12

Table 3.6

Washington State Community Colleges
Utilization Summary

	1986/87		1987/88	
	Course Use	Supplementary Use	Course Use	Supplementary Use
Africans	2	0	0	0
Brains	2	2	2	9
Congress	0	1	0	0
Constitution	0	1	2	3
Economics U$A	3	0	2	8
French	0	0	3	9
Mechanical Universe	0	4	0	1
Planet Earth	1	3	1	11
Practical Purposes	0	2	2	0
Voices and Visions	0	0	2	0
Write Course	3	3	3	6
Totals	11	16	17	47

Table 3.7

University of Wisconsin System
Utilization Summary

	1986/87		1987/88	
	Course Use	Supplementary Use	Course Use	Supplementary Use
Africans	2	4	0	3
Brains	0	8	1	13
Congress	3	2	0	1
Constitution	1	7	0	7
Economics U$A	0	40	0	16
French	0	0	2	11
Mechanical Universe I	0	6	0	6
Mechanical Universe II	0	0	0	1
New Literacy	0	1	0	0
Planet Earth	0	14	0	9
Practical Purposes	0	0	1	1
Voices and Visions	0	0	0	2
Western Europe*	0	1	0	0
Write Course	0	3	0	1
Writers Writing	0	1	0	0
Totals	6	87	4	71

*Audio course

D. Enrollments

As noted in the above section, the pattern of use of the materials differs substantially across the five sites. Therefore, in examining data with respect to enrollments in courses using the Annenberg/CPB materials, it is important to distinguish between telecourse and supplementary use patterns in the five sites. For the Atlanta colleges and the Massachusetts institutions enrollments in courses using the materials in a supplementary fashion are reported. At USF, on the other hand, enrollment figures are for telecourses only. However, because there was some telecourse use in the University of Wisconsin System and substantial telecourse use in the Washington community colleges, enrollment figures are reported separately for each type of use, i.e., telecourse and supplementary.

Tables 3.8 through 3.12 present the enrollment figures for the five sites for the academic years 1986-87 and 1987-88. Again we see that the enrollment figures at the University of Wisconsin System institutions are much larger than in the other five sites. The number of students exposed to Annenberg/CPB materials over the course of the DUA project was indeed substantial. Despite only eleven and ten supplementary uses among the Atlanta colleges in 1986-87 and 87-88 respectively, somewhere between ten and fifteen percent of the students in these colleges were exposed to the materials each year. Of course, this is an approximation, because we do not know how many students were enrolled in several courses in which supplementary use of the materials were made or how many unreported uses there might have been. Nevertheless, the numbers among the Atlanta colleges indicate that substantial effort was made to encourage use of the materials, and these efforts achieved

some successes.

Enrollments in the USF telecourses through Open University are substantial for both years. The largest enrollment is accounted for by New Literacy, for each year it makes up over fifty percent of the total telecourse enrollments. New Literacy was offered as a telecourse by faculty in the computer science department. The course is intended for students who are not majoring in computer science. It functions as the service introductory computing course for all students at USF. The enrollments are among the largest in the history of Open University. From the viewpoint of Open University, and the computer science department, New Literacy is a smashing success. However, from the viewpoint of students who wish to take a computer literacy course there is only one choice, the Open University telecourse New Literacy.

Many faculty whom we interviewed at USF expressed concern that students did not have an another option for an introductory computer course. They felt that students should also have the option of taking a course which met regularly and afforded more hands-on experience in completing computer programs and receiving faculty feedback. The computer science department faculty who are responsible for New Literacy offer one optional laboratory period during the course of the semester. Students can come to the laboratory and use microcomputers to complete a programming assignment. This does give students an opportunity for a limited hands on experience with computers during the course. However, faculty report that less than twenty-five percent of the students attend the optional laboratory.

The use of the Annenberg/CPB materials for telecourses at USF has been

very successful during the course of the DUA project. Students were able to enroll in these courses without paying any additional fees. However, for the 1988-89 academic year the financial picture will be very different. Use of the Annenberg/CPB materials for telecourses will revert to the normal pricing structure. This means that for each student enrolling in an Annenberg/CPB telecourse, the University would have to pay a fifteen dollar registration fee. Florida state law prohibits the university from passing such fees on to the students. The university budget will not allow fees to be absorbed. As of summer of 1988, USF plans not to use any of the Annenberg/CPB materials for telecourses in the future.

Participation in the DUA project has thus created a problem for USF with respect to future use of audio-visual materials. Expectations have been built up on the part of faculty and students that such telecourses will continue to be available. The university's financial condition coupled with the pricing structure for Annenberg/CPB telecourses is preventing more wide spread use of these materials.

In western Massachusetts there was a substantial drop in enrollments in courses making supplementary use of the Annenberg/CPB materials between the two years. Total enrollment including both supplementary and telecourse use in western Massachusetts is greater during the second year, when we include the 659 students enrolled in French in Action. However, as Table 3.10 shows there has been a decrease in the number of courses using materials in a supplementary fashion, as well as an overall decrease in the number of students enrolled in such courses.

There is an increase in students enrolled in courses using the Africans,

as well as an increase in the number of students enrolled in courses using Constitution. In the last year, there was no use of Brain, Congress, New Literacy, or Planet Earth. Geology faculty at Hampshire and Mount Holyoke had made substantial supplementary use of Planet Earth tapes in the 1986-87 academic year. These same faculty were on sabbatical during the 1987-88 year. Consequently, there was no subsequent supplementary use of the Plant Earth materials. However, it is expected that this use of Planet Earth will resume in the next academic year. This points to the fact that use patterns depend more on the individual faculty than on the institutional characteristics, at least in terms of supplementary uses in four-year colleges.

Among the community colleges in Washington state, as Table 3.11 shows, there was growth in both telecourse enrollment and supplementary use course enrollment between the two academic years. The number of students enrolled in telecourses more than doubled, and the number of students exposed to the materials in a supplementary fashion quadrupled. The increases in these enrollment figures probably reflect the pattern discussed above in which faculty response to administrative pressure resulted in substantial telecourse offerings in both years. These data also reflect the even greater increase in student exposure to the material in courses employing supplementary use. These data again confirm the effective and successful use of the materials among the three community colleges.

The enrollment figures for the University of Wisconsin System as reflected in Table 3.12 show a somewhat different pattern. Although the numbers are indeed very large for both telecourse and supplementary use enrollments, there is a very definite pattern of decrease in the number of

students exposed to the materials in both formats between the 1986-87 and 1987-88 academic years. It is not possible to be certain as to the cause of this decrease. However, based on interviews with faculty and administrators at the various campuses of the University of Wisconsin System, we get the sense that many faculty experimented with uses in 1986-87 but did not find the results strong enough to warrant continued use.

As the data in Table in 3.12 show, telecourse use dropped off substantially in the 1987-88 academic year. Only three courses, Brain, French in Action, and Practical Purposes had any enrollments at all, and two of these were available for the first time that year. Supplementary uses showed a similar decline dropping by almost fifty percent. Faculty members reported that they had used the materials in the previous year and felt that they were certainly adequate. However, they were not sufficiently enthusiastic about the materials to cause them to plan to use them again.

Many faculty at Wisconsin reported that the "hassle" of arranging for and using materials in class was sufficiently great to discourage them from subsequent use. Reports of nondelivery of materials, malfunctioning equipment, unskilled operators, and the like were common. It should be pointed out that these logistical problems of using materials in a supplementary fashion were reported by faculty in the Massachusetts institutions as well as in Wisconsin.

Table 3.8

Atlanta Colleges

Student Enrollments In Courses Using
Annenberg/CPB Materials

	1986/87	1987/88
	Supplementary Uses	Supplementary Uses
Brain	12	0
French	0	72
Mechanical Universe	56	28
New Literacy	48	64
Write Course	70	35
Writers Writing	70	35
Totals	256	234

(Note: There were no course uses reported at this site.)

Table 3.9

University of South Florida

Student Enrollments In Courses Using Annenberg/CPB Materials

	1986/87 Course Use	1987/88 Course Use
Africans	87	57
Brain	184	170
China and Japan*	52	0
Congress	61	0
Economics U$A	31	62
Legacies*	0	23
New Literacy	754	618
Planet Earth	107	134
Western Europe	52	59
Totals	1,328	1,123

*Audio course

(Note: There were no supplementary uses report at this site.)

Table 3.10

Western Massachusetts

Student Enrollments In Courses Using
Annenberg/CPB Materials

	1986/87 Supplementary Use	1987/88 Supplementary Use
Africans	30	196
Brain	24	0
Congress	21	0
Constitution	78	112
French	0	29
Economics U$A	450	0
Mechanical Universe	65	15
New Literacy	40	0
Planet Earth	280	0
Practical Purpose	0	20
Totals	988	372

(Note: This site also reported 657 student enrollments in French In Action as a telecourse during the 1987/88 academic year.)

Table 3.11

Washington State Community Colleges

Student Enrollments In Courses Using
Annenberg/CPB Materials

	1986/87		1987/88	
	Course Use	Supplementary Use	Course Use	Supplementary Use
Africans	24	0	0	0
Brain	50	133	75	422
Congress	0	19	0	0
Constitution	0	23	43	125
Economics U$A	64	0	78	400
French	0	0	63	193
Mechanical Universe	0	81	0	30
Planet Earth	0	111	19	570
Practical Purposes	0	30	37	0
Voices and Visions	0	0	51	0
Write Course	82	83	137	152
Totals	220	480	503	1,892

Table 3.12

University of Wisconsin System

Student Enrollments In Courses Using
Annenberg/CPB Materials

	1986/87		1987/88	
	Course Use	Supplementary Use	Course Use	Supplementary Use
Africans	34	600	0	256
Brain	0	361	5	347
Congress	59	71	0	0
Constitution	20	184	0	160
Economics U$A	0	2,242	0	962
French	0	0	31	135
Mechanical Universe I	0	73	0	101
Mechanical Universe II	0	0	0	32
New Literacy	0	180	0	0
Planet Earth	0	630	0	220
Practical Purposes	0	0	31	0
Voices and Visions	0	0	0	40
Western Europe*	0	14	0	0
Write Course	0	156	0	0
Writers Writing	0	50	0	0
Totals	113	4,561	67	2,254

*Audio course

E. Academic Departments

Tables 3.13 through 3.17 present data on the use of the Annenberg/CPB materials by various academic departments in institutions across the five sites for the academic years 1986-87 and 1987-88. For the most part, the patterns in these tables are very much what one would expect. For example, the French in Action course was taught in French or foreign language departments; Writers Writing and the Write Course were used mainly by English departments; and the New Literacy was used by computer science departments. However, the tables are presented here, because there are some interesting departures from expectations.

Mechanical Universe, for example, was used in a number of different departments. For example, in Atlanta it was used in a supplementary fashion in mathematics courses. This was also true in Massachusetts. However, in Wisconsin it was used in physics departments. At USF, serious consideration was given to using one particular tape in a physical education course on kinesiology.

Brain is another series which was used in a variety of different departments. For example, it was used in psychology departments, as one might expect. But it was used also as a telecourse at USF, in supplementary fashion in a biology course in Massachusetts, and in education at the University of Wisconsin. In Atlanta a segment of Brain was used in a supplementary fashion in a mathematics course.

Africans, as one might expect, was used in Afro-American studies programs as well as international and interdisciplinary programs. It was used also at USF as a telecourse and in supplementary fashion in Massachusetts,

Washington, and Wisconsin. Interdisciplinary programs and international studies programs were the primary users of the audio courses, China and Japan and Western Europe. This was true in telecourse use at USF and supplementary use at the University of Wisconsin.

Planet Earth was used by both geography and geology departments at USF as a telecourse and in supplementary use in Massachusetts and Washington. At the University of Wisconsin Planet Earth was also used in an astronomy course.

Economics U$A was used mainly and extensively in economics departments. However, at the University of Wisconsin it was used in a supplementary fashion in business courses, and at USF it was used extensively in a teacher continuing education program. Congress and Constitution were used primarily in political science departments. However, Constitution tended also to be used in other social science departments. For example, at the University of Wisconsin it was used in psychology, sociology, and social work, all in a supplementary fashion.

The differences in patterns of telecourse and supplementary use across the five sites show very little change between the 1986-87 and 87-88 academic years. The unexpected uses of materials are accounted for mainly by virtue of the particular interests of individual faculty members. In many instances, the pattern of use also reflects the interpersonal networks of faculty members and local project directors.

Table 3.13

Atlanta Colleges Supplementary Use
by Academic Departments

	1986/87				1987/88			
	Computer	English	Foreign Language	Mathematics	Computer	English	Foreign Language	Mathematics
Brain	0	0	0	1	0	0	0	0
French	0	0	0	0	0	0	4	0
Mechanical Universe	0	0	0	4	0	0	0	2
New Literacy	0	0	0	2	1	0	0	1
Write Course	0	2	0	0	0	1	0	0
Writers Writing	0	2	0	0	0	1	0	0
Totals	0	4	0	7	1	2	4	3

Table 3.14

University of South Florida Telecourse Use by Academic Departments

1986/87

	African Studies	Biology	Computer Science	Education	Geography	Inter-disciplinary	Inter-national	Political Science	Women's Studies
Africans	0	0	0	0	0	2	0	0	0
Brain	0	2	0	0	0	0	0	0	0
China and Japan*	0	0	0	0	0	1	0	0	0
Congress	0	0	0	0	0	0	0	1	0
Economics U$A	0	0	0	1	0	0	0	0	0
Legacies*	0	0	0	0	0	0	0	0	0
New Literacy	0	0	2	0	0	0	0	0	0
Planet Earth	0	0	0	0	2	0	0	0	0
Western Europe*	0	0	0	0	0	1	0	0	0
Totals	0	2	2	1	2	4	0	1	0

1987/88

Africans	1	0	0	0	0	1	0	0	0
Brain	0	2	0	0	0	0	0	0	0
China and Japan*	0	0	0	0	0	0	0	0	0
Congress	0	0	0	0	0	0	0	0	0
Economics U$A	0	0	0	2	0	0	0	0	0
Legacies*	0	0	0	0	0	0	0	0	1
New Literacy	0	0	2	0	0	0	0	0	0
Planet Earth	0	0	0	0	1	0	0	0	0
Western Europe*	0	0	0	0	0	0	1	0	0
Totals	1	2	2	2	1	1	1	0	1

*Audio course

Table 3.15

Western Massachusetts Supplementary Use by Academic Departments

1986/87

	Art	Afro-American	Anthropology	Biology	Economics	Education	French	Geology	Mathematics	Physics	Political Science	Public Health
Africans	0	0	0	0	0	1	0	0	0	0	0	0
Brain	0	0	0	1	0	0	0	0	0	0	0	0
Congress	0	0	0	0	0	0	0	0	0	0	0	1
Constitution	0	0	0	0	0	0	0	0	0	0	3	0
French	0	0	0	0	0	0	0	0	0	0	0	0
Economics U$A	0	0	0	0	1	0	0	0	0	0	0	0
Mechanical Universe	0	0	0	0	0	0	0	0	2	1	0	0
New Literacy	2	0	0	0	0	0	0	0	0	0	0	0
Planet Earth	0	0	0	0	0	0	0	2	0	1	0	0
Practical Purposes	0	0	0	0	0	0	0	0	0	0	0	0
Totals	2	0	0	1	1	1	0	2	2	2	3	1

1987/88

Africans	0	1	2	0	0	1	0	0	0	0	0	0
Brain	0	0	0	0	0	0	0	0	0	0	0	0
Congress	0	0	9	0	0	0	0	0	0	0	0	0
Constitution	0	0	0	0	0	0	0	0	0	0	4	0
French	0	0	0	0	0	0	2	0	0	0	0	0
Economics U$A	0	0	0	0	0	0	0	0	0	0	0	0
Mechanical Universe	0	0	0	0	0	0	0	0	1	0	0	0
New Literacy	0	0	0	0	0	0	0	0	0	0	0	0
Planet Earth	0	0	0	0	0	0	0	0	0	0	0	0
Practical Purposes	0	0	0	0	0	0	0	0	1	0	0	0
Totals	0	1	2	0	0	1	2	0	2	0	4	0

Table 3.16

Washington State Community Colleges

Telecourse and Supplementary Use
by Academic Departments

1986/87

	Arts	Humanities	Social Science	Science
Africans	0	0	2	0
Brain	0	0	4	0
Congress	0	0	1	0
Constitution	0	0	1	0
Economics U$A	0	0	3	0
French	0	0	0	0
Mechanical Universe	0	0	0	4
Planet Earth	0	0	2	2
Practical Purposes	0	0	0	2
Voices and Visions	0	0	0	0
Write Course	0	6	0	0
Totals	0	6	13	8

1987/88

Africans	0	0	0	0
Brain	0	0	10	1
Congress	0	0	0	0
Constitution	0	3	2	0
Economics U$A	0	0	10	0
French	12	0	0	0
Mechanical Universe	0	0	0	1
Planet Earth	0	2	0	10
Practical Purposes	0	0	0	2
Voices and Visions	1	1	0	0
Write Course	3	6	0	0
Totals	16	12	22	14

Table 3.17

University of Wisconsin System

Telecourse and Supplementary Use
by Academic Departments

1986/87

	African Studies	Anth-ropol.	Astro.	Bio.	Bus.	Chem.	Comp. Sci.	Cont. Edu.	Econ.	Educ.	Eng.	For. Lang.	Geog.	Geol.	Hum. Eng.	His.	Inter. disc.	Math	Phy.	Pol. Sci.	Psyc.	Soc. work	Sociology
Africans	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	3	0	0	0
Brain	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	7	0	0
Congress	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0
Constitution	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1	1	1
Economics U$A	0	0	0	0	5	0	0	0	35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
French	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mechanical Universe I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	5	0	0	0	0	0
Mechanical Universe II	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
New Literacy	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Planet Earth	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Practical Purposes	0	0	0	0	0	0	0	0	0	0	0	0	7	6	0	0	0	0	0	0	0	0	0
Voices and Visions	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Western Europe*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Write Course	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Writers Writing	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	1	0	0	0
Totals	1	0	1	0	5	0	1	0	35	1	4	0	7	6	1	2	1	0	5	13	8	1	1

1987/88

Africans	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Brain	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0
Congress	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Constitution	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	3	0	0	0
Economics U$A	0	0	0	0	4	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	1
French	0	0	0	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0
Mechanical Universe I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	2	0	0	0	0
Mechanical Universe II	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
New Literacy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Planet Earth	0	0	0	0	1	0	0	0	0	0	0	0	8	1	0	0	0	0	0	0	0	0	0
Practical Purposes	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
Voices and Visions	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Western Europe*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Write Course	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Writers Writing	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Totals	1	1	0	3	5	0	0	1	11	0	3	11	8	1	0	2	2	4	3	4	10	0	1

*Audio course

BEST COPY AVAILABLE

F. Examples of Specific Uses

In this section, brief descriptions are presented of particularly interesting uses of materials. These accounts are given to provide further detail on how faculty members learned about materials, the processes in which they engaged to decide to use or not use the materials, the ways in which the materials were made available to and used by the students, and anecdotal assessments of the effectiveness or success of using these materials.

Starting with the Atlanta site, toward the end of the project a successful use from the viewpoint of the local project director and faculty member involved was supplementary use of French in Action in the introductory language courses. This faculty member had initially heard about French in Action through attendance at an annual meeting of the Modern Language Association. Flyers were distributed there, and a member of the Annenberg/CPB staff was available to offer previews of some of the tapes and answer questions.

When this faculty member returned to her campus in Atlanta, she contacted the local project director who indicated that he had just received copies of the tapes for the first semester course. The faculty member viewed some of these materials in the Mass Communications Center at Clark College and immediately decided to start using some of the tapes in her classes as supplementary materials. She reported that student reaction was very positive, and she was pleased that her students were attempting to engage in conversational French at a much earlier stage than was previously the case in traditionally taught courses.

This faculty member expects to use the tapes more extensively in a

supplementary fashion next year. She will consider the possibility of using the entire set of tapes as a course. However, she is concerned that it will be difficult to make arrangements for broadcasting the tapes at times that will be convenient for her students. More likely she will use many, if not all the tapes, by showing them in the regularly scheduled class sessions.

A physics professor at one of the Atlanta colleges carefully reviewed Mechanical Universe for possible supplementary use in his courses. This review was undertaken at the urging of the local project director. The faculty member concluded that the tapes were unusable in his courses. He explained that the level of mathematics required for students to understand the materials presented was beyond that achieved by most, if not all, the students in his physics classes.

In subsequent visits with this faculty member by both Annenberg/CPB staff and ETS staff, it became quite clear that this faculty member was convinced that the tapes were not usable in his college. Furthermore, he expressed great disappointment that the course had been designed to preclude its use with his students. It is interesting to note that similar reactions to Mechanical Universe were reported by physics professors at a four-year institution of the University of Wisconsin and one of the liberal arts colleges in Massachusetts. On the other hand, faculty at one of the community colleges in Washington reported that the materials were used most effectively in a supplementary fashion in both a physics course and an optics course.

At USF a faculty member used Brain as a telecourse through Open University in the fall of 1986. The faculty member was very unhappy with the experience. He claimed that he and his students alike were extremely

dissatisfied with the organization, content, audio-visual, and print materials. He cited his students' very poor performance on the mid-term and final examinations as evidence for the ineffectiveness of the Brain as a telecourse. In an extended interview with this faculty member, it was clear that he had hoped to use the Brain as a replacement for a course in physiological psychology that he had taught for many years. It was also obvious that the materials were not designed for this purpose and that the faculty member was not interested in adjusting his course syllabus and exams to conform with the design of the telecourse.

This faculty member made it clear that he never again would use any Annenberg/CPB materials. Furthermore, he announced his intention to advise his colleagues to avoid using these materials in any of their courses. It became clear that the experience was so frustrating to this faculty member that any attempt to ameliorate the negative effects would fail. However, a faculty member in the biology department gave serious consideration to using some of the materials from the Brain as supplementary resources for her students. The tapes were placed on reserve in the media center for students to review.

Use of the audio courses, China and Japan and Western Europe occurred at the USF. The courses were offered through the Open University and placed in the official category of telecourses. However, the audio tapes were never broadcast. Despite the fact that USF has an FM radio station, it was determined that the most effective way for the students to gain access to the audio tapes would be to duplicate them and offer them for sale in the university bookstore. Students listened to the tapes at their leisure on

their own machines.

Interviews with the faculty members teaching these courses reveal that they and the students think very highly of the textbooks. In fact, one of the professors candidly stated that he organized the course around the textbooks, and he believes it is possible for students to do well in the course without ever listening to the tapes. When he asks the students if they listen to the tapes, he receives many positive answers; but he is suspicious of these responses and speculates that very few students ever listen to the tapes.

Perhaps one of the more interesting uses of the Annenberg/CPB materials in the entire DUA project occurred with the use of Congress at USF. A young, nontenured member of the political science faculty agreed to teach Congress as a telecourse. This person taught the course on three different occasions. As with most USF Open University telecourses, she convened one orientation meeting at which attendance was optional and two review sessions, one before the midterm examination and one before the final examination. Attendance at the review sessions was also optional. Based on student performance on the examinations, the first time she offered the course, she felt the course was most unsuccessful in terms of learning outcomes.

When she offered the course the second time, she added two additional optional class meetings. The first additional class meeting occurred following a national election. She conducted a brief lecture describing the election outcomes and then presided over a classroom discussion of the interpretations and implications of the election. She and the students were very pleased with this session, and they scheduled an additional session in which the professor again lectured and presided over a discussion.

Examination results from the second course offering were more favorable, especially for those students attending the optional sessions.

Based on these results and student responses, she decided to increase the number of optional class meetings during the third offering of Congress as a telecourse. In addition to the orientation session and the two review sessions before examinations, four additional optional class meetings were convened. The format during these meetings was a lecture by the professor followed by student discussion. Word began to spread among the students that these sessions were both interesting and helpful in mastering course content. By the time of the fourth optional substantive session, over fifty percent of the enrolled students were attending.

This experience is particularly noteworthy; because in response to the professor's perception that students were not learning adequately in the course, the structure was changed and began to take on more the format of a traditional lecture course. The audio-visual tapes continued to be broadcast through the Open University's facilities, but many of the students in the course were attending more and more classes each semester. This pattern may indeed be a precursor for future uses of audio-visual materials which combine the use of the tapes with optional aspects of the traditionally taught course, i.e., more frequently scheduled class lecture and discussion sessions.

An interesting supplementary use of New Literacy occurred in Massachusetts in an art course. The emphasis in this application was on computer graphics, and tapes on this topic were shown in class to illustrate this new and potentially exciting art form. The faculty member used the tapes in two semesters during the 1986/87 academic year. However, use was not

continued the following year. The faculty member learned of the existence of these tapes from a colleague who had used them in an art course in another university not included in the DUA project. After the experience of using the tapes for two semesters, this faculty member decided to use another approach to teaching computer graphics as an art form and dropped the use of the tapes.

One of the most successful uses of these materials in Massachusetts was the supplementary showing of the tapes in the introductory economics series at University of Massachusetts. A total of seven tapes were shown in class during the 1986/87 academic year. Although this appears as only one use of the materials in Table 3.15, the enrollments were substantial, 450, as seen from Table 3.10. The faculty member who used the Economics U$A tapes was on sabbatical leave during the following year, and the person who taught the course then decided not to use the tapes.

The original user of the tapes was on campus during his sabbatical and was available for interview. He indicated that he was quite pleased with the use of the tapes the previous year. He felt that they provided concrete contexts for students in which to place theoretical concepts. In his opinion the tapes made it easier for him to keep the students intellectually involved in the course. Nevertheless, despite his overwhelmingly positive reaction to the materials, he still expressed some doubt as to future use of the tapes in his teaching activities. He expressed some frustration over the practical problems of using tapes in regularly scheduled classes.

This faculty member would like to have an index of substantive topics covered in the tapes. Such an index should specify precisely the location of segments on the tapes so that an operator can be instructed to show only

selected portions of various tapes. Ideally he would like to have the contents of the tapes on a videodisc with an index so that he or his students could browse and select among the contents. Without this capability to retrieve selectively from the tapes, he was less than enthusiastic about his future use the materials.

Among the political science faculty in the institutions in Massachusetts the incidence of use and nonuse of tapes from the Constitution series is an informative anecdote. Prior to the establishment of the DUA project, a meeting of political scientists and other social and behavioral scientists was held for the purpose of previewing Constitution for possible use in the Five College institutions. The producer of the series convened the meeting and apparently was perceived by many of the participants as being somewhat overbearing in his promotion of the series and its potential for enhancing the intellectual quality of many courses. In fact, the reaction of many faculty was so strong that when the local project director first attempted to promote any Annenberg/CPB Project materials, she encountered a very substantial residue of negative reactions which spilled over from Constitution to all the series. However, gradually this opposition subsided. As the data indicate, eventually substantial use of the materials occurred as the result of the effective efforts of the local project director.

At one of the community colleges in Washington, an anthropology professor used the materials from the Africans. During the 1986/87 academic year, he used the weekly evening prime time telecasts from the Seattle Public Broadcasting Service affiliate to offer a telecourse using Africans. His text for the course was the collection of readings prepared for the series. He

made arrangements to have the shows taped from the broadcast, and the students were invited to come the regularly scheduled weekly meetings of the class one hour early to view or review the tapes. Approximately half the students attended these sessions. A particularly successful event during the course was the appearance of the series principal, Professor Ali Mazrui, for one of the class meetings. He is an old friend of the anthropology professor offering the course, and he made the appearance as a personal favor.

During the following academic year, this professor was interviewed to determine if he was using any of the African materials again. Since Africans was not then being broadcast locally, he was not offering the telecourse. In fact, he was not teaching a course specifically designed to cover the same content area as the series. Although he was teaching several courses in African studies, he had not at the time of the interview at the end of the fall quarter used any of the tapes as supplementary materials. He thought that perhaps he might do so in one or two of his courses in the winter or spring quarters, but he was not certain.

An informative interaction occurred at another Washington community college concerning use of the Economics U$A series. The dean of instruction at this college was particularly interested in seeing this series used in the introductory two semester course sequence on micro and macro economics for nonmajors. He indicated to the Annenberg/CPB and ETS staff that he was confident that adoption of these materials would occur at his institution. He was anticipating that substantial increases in enrollments would result from use of the Economics U$A series.

When the materials were reviewed by the economics faculty, they found

that several topics they routinely included in their courses were omitted from the Annenberg/CPB series. They felt so strongly that these issues must be included in their courses that they refused to use any of the Economics U$A series. The dean of instruction negotiated a compromise in which he supplied the funds to produce locally a series of audio tapes of lectures covering the missing topics. Once the local audio tapes were completed, Economics U$A was adopted as a telecourse. However, it was used in the two course series for economics majors only, courses which had much smaller enrollments than the service courses for nonmajors.

An illuminating contrast occurred in Wisconsin concerning the use Africans. On the Madison campus, tapes from Africans were used as supplementary materials in a political science course. The professor was involved in the production of the series and felt a sense of ownership with the materials. He used the materials in several offerings and was very pleased with the results. He felt the materials enabled him to teach more effectively. ETS staff had several opportunities to interview him as well as some of the graduate students who served as teaching assistants for the courses. All involved in the courses repeatedly expressed most positive assessments and indicated their plans to use the materials in future.

A political science faculty member at one of the four year Wisconsin institutions had a very different reaction to the same series. This individual experienced many frustrating delays in gaining access the tapes and print materials. He felt that he had committed to using the materials, but he never had adequate opportunity to review them to plan for most effective use. In addition, he felt that he had been assured through the University of

Wisconsin University Relations Office, the local project director, that ETS staff had promised to provide assistance in evaluating student learning outcomes resulting from use of the materials. At a subsequent meeting between this professor, the local project director, and ETS, the problems were fully discussed and suggestions were made to resolve the differences and prevent future misunderstandings.

In terms of the number of students affected by the use of the Annenberg/CPB materials, perhaps the greatest success story is the use of French in Action at the University of Massachusetts. As pointed out above, French in Action became available only during the last year of the DUA project. Its large scale adoption and enthusiastic reception at the University of Massachusetts is all the more remarkable, given that it was available only for one-half of the period during which data were collected.

At University of Massachusetts, undergraduate liberal arts majors are required to complete two years of a foreign language. Introductory French is the largest course used by students to meet this requirement. Each year over twenty sections of approximately 25 students each are offered in French I. These courses are taught by graduate student teaching assistants under the direction of a charismatic senior faculty member. This professor had been involved in the production of French in Action and was prepared immediately to begin using it in her courses. Faculty, graduate assistant, and student reaction was most positive. Tapes were shown in class to students once a week. Following the viewing of tapes in the classroom, the teaching assistants guided the students through a question-and-answer conversation session dealing with the vocabulary and grammar covered in that tape.

Interviews with faculty and teaching assistants revealed that everyone was indeed very happy with the dramatic transformation which had occurred in the teaching of introductory French by using French in Action. Student interest was higher, student performance was greater, and development of conversational skills was much further advanced than in previous years when the course was taught in the traditional manner using only print materials. Clearly, French in Action appears to be a very successful program. The combination of videotapes with engaging scenarios and the print materials are proving to be widely accepted and approved. Although the use of French in Action was most widespread at the University of Massachusetts, institutions at the other sites of the DUA project also reported enthusiastic reactions to French in Action.

G. Additional Data Analyses

As can be noted on the data collection forms in Appendix B, local project directors were asked to collect additional information on each utilization of the Annenberg/CPB materials. These data are not presented in tabular form because the patterns are not very interesting and the levels of unreported information are so high. Rather, brief descriptions of the results of the analyses are presented in the text below.

The data, collected on the utilization summary form, reported patterns of use of the print materials which were designed to support use of the audio and audiovisual tapes, including primary texts, secondary texts, faculty manuals, student study guides, and the like. Analyses of these data showed surprisingly consistent patterns. When the materials were used as a

telecourse, the primary texts were routinely used. However, none of the other print materials, manuals or guides, were used at all. On the other hand, there was no reported use of any print materials, texts included, in any of the supplementary use implementations. This was true for all institutions in the five sites for both academic years for which data were collected.

The utilization summary form also reported on whether the materials were used in courses that were offered for credit or on a non-credit basis. Here again, the pattern is amazingly consistent for regular college courses. With only one exception, all uses of the materials were in for-credit courses. The exception was a single use of tapes from Write Course in a remedial English composition course for entering students in one of the community colleges. However, there was extensive noncredit materials use with special groups. These will be reported in the next section on special populations.

The data collected on the utilization summary form also reported on the topics of course format and methods used in making the tapes available to the students. Unfortunately, the non-response rates on these items were so high that it is difficult to make any interpretations of these data. The meager data that was reported seem to indicate that most telecourses met only for an orientation session, review meetings, and examinations. Furthermore, most telecourses were broadcast using some combination of a campus facility and local cable and Public Broadcasting Service transmissions. Most supplementary uses involved either showing tapes in regular class meetings or encouraging students to view local broadcasts.

In a few instances, tapes were deposited in the library or media center for students to view at their convenience. This use of the tapes was

equivalent to the common practice in colleges and universities of placing print materials on reserve in the library for restricted circulation only to the students enrolled particular courses. Staff in these facilities reported that use of these reserved materials was very limited.

Anecdotal reports from faculty indicate that in some institutions students were making copies of broadcasts on personal video cassette recorders and viewing and reviewing the tapes at their leisure in their residences. However, it was not possible to determine how widespread this practice was. The anecdotes came from institutions in which the student body tended to be from more affluent families.

H. Special Populations

As mentioned in chapter two, special encouragement was given to local project directors to involve special populations of students in using the Annenberg/CPB materials. Success in accomplishing this objective varied across the five sites. Attempts were made to involve senior citizens, hospital patients, prison inmates, corporate employees, military personnel and their dependents, and local public libraries. The use of the materials by these populations is included in the above data only to the limited extent that the students were enrolled in college or university sponsored courses. However, there were a number of interesting uses of the materials by groups of people who were not matriculated in regular degree programs.

Faculty members at University of Massachusetts, Wisconsin institutions, and Washington community colleges were all involved in teaching courses in state prisons using Annenberg/CPB materials, including Write Course, New

Literacy, and Constitution. In Massachusetts a project was underway to use video cassette recorders and microcomputers to allow inmates to browse through the contents of the tapes in New Literacy using a specially created index to identify relevant sections of the material and specify their location for retrieval. This project was being conducted by an inmate with supervision exercised by a Massachusetts faculty member.

Faculty in Massachusetts and Washington facilitated use of the materials with senior citizen groups. This use included Planet Earth, New Literacy, and Congress. In Washington a group of senior citizens undertook extensive independent work in geology. A geologist retired from a local corporation lead a small group of nondegree students through a year long exploration of the principles of physical geology, including many field trips to local sites and extensive use of the Planet Earth tapes. The leader of this group reported that the tapes served the very important purpose of providing vivid and concrete examples of many of the points he attempted to cover in traditional lectures. This group seemed especially attuned to using audiovisual materials rather than reading textbooks.

At the University Of Massachusetts, the Student Center used Planet Earth, Brain, and Constitution during the Fall 1986 and Spring 1987 in their program of continuous playing of films and tapes on several monitors distributed throughout their building in the center of campus. There is no way of even guessing how many passersby were exposed to these materials during those times.

In Wisconsin and Massachusetts complete sets of several course materials were placed in public libraries by university faculty members to stimulate use

by patrons. Unfortunately, circulation statistics were not available to report the extent of this usage.

The next and final chapter summarizes the major findings of these data collections and analyses.

Chapter Four

SUMMARY AND CONCLUSIONS

The purpose of the Dissemination, Utilization and Assessment (DUA) project was twofold. First, all the Annenberg/Corporation for Public Broadcasting (Annenberg/CPB) Project course materials were to be distributed at no cost to the colleges and universities in the five sites throughout the nation. Thus, forty-two institutions had free access to all materials for a three-year period. They were permitted to copy and use the materials in any fashion they saw fit. Furthermore, they were encouraged to consider ways in which the materials might be used in innovative and non-traditional fashions. Second, the patterns of use and identification of factors which both facilitated and impeded materials utilization were to be documented. Educational Testing Service (ETS) was engaged to conduct the project and to collect and interpret the data.

This last chapter is a summary of the DUA project and contains three sections. The first is a summary of the data collected during the project. The second section explores conclusions concerning effective use of the Annenberg/CPB materials in colleges and universities. The third and final section addresses several general issues relevant to the use of audio-visual materials and other technologies in higher education.

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A. Summary

Data were collected on the extent to which copies were made of the audiovisual and audiotapes included in the Annenberg/CPB collection. Patterns of tape copying were very uneven across the five sites, varying from nine copies being made by the four colleges in Atlanta to 435 copies made by the twenty-six institutions at the University of Wisconsin. Indeed, tape copying was so prevalent at the University of Wisconsin that it accounted for over 65% of all copying done in the project. Tapes most frequently copied were French in Action (51), Africans (50), Economics USA (48), Brain (45), and Planet Earth (44). Almost all the tape copying that was completed in the project resulted in duplicating the entire sets of tapes for a given course. There was very little copying of individual tapes or segments of courses.

A distinction was made in the project between the use of the Annenberg/CPB materials for the purpose of conducting a telecourse and the use of the materials in a supplementary fashion in a more traditionally formatted course. Telecourses use all the audio-visual or audio materials and some segment of the supporting print materials. Telecourses are usually broadcast in some fashion, using local facilities, cable, or ITFS services.

Supplementary use was by far more common than telecourses among the DUA project participants. The sole exception was the University of South Florida, where no supplementary use was reported. Telecourse use was prevalent here. However, all other institutions reported more supplementary use than telecourses. At the institutions in Atlanta and Massachusetts there was only supplementary use, with one important exception--the large scale use of French in Action at the University of Massachusetts.

During the latter two years of the project, when detailed information was collected on patterns of use, there were clear indications of growth in supplementary use, some growth more prevalent in some institutions than others. However, there was very little growth and some evidence of reductions in telecourse use on some campuses.

Data were also collected on the number of students enrolled in courses in which the Annenberg/CPB materials were used. With the exception of the University of South Florida, the enrollment figures pertain to supplementary use. Among the Atlanta institutions, and at the University of South Florida, there was very little change in enrollment figures between the first and second years of data collection. At the Wisconsin institutions there were substantial decreases in enrollments. In Massachusetts enrollment decreases in some courses were offset by increases in others, particularly those using French in Action. However, at the community colleges in Washington, there were

clear increases in enrollment figures in courses using the Annenberg/CPB materials.

The use of the Annenberg/CPB materials, as recorded by the departmental affiliation of the faculty member conducting the course, show patterns that were for the most part to be expected. For example, Economics USA was used in introductory Economics courses, and Mechanical Universe was used in introductory Physics courses. However, several of the Annenberg/CPB series were used across a variety of departments. For example, Mechanical Universe also was used in Geology, Geography, and even a Physical Education course on Kinesiology. Brain, as one might expect, was used in mainly Psychology and Biology courses. However, it was also used in a variety of human development and counseling courses. Africans, of course, was of interest to faculty members teaching courses in a wide variety of social science departments as well as African studies programs. There was more departmental heterogeneity with respect to the use of Africans than any other series.

Data were also collected concerning the use of the print materials to support the Annenberg/CPB audiovisual and audiotapes. Where telecourse use was common, particularly at the University of South Florida, the primary textbook for a course was typically adopted by the faculty member. However, the other print materials, student guides, and teacher guides were rarely used.

At the University of South Florida, the audiocourse, China and Japan, was used in the International Studies Program. The textbook was heavily used by the professors and students. On the other hand, it was not at all clear that the audiotapes were used extensively. Both faculty and students had more enthusiasm for the text than for the audiotapes.

Several efforts were made across all sites participating in the project to use the Annenberg/CPB materials with special populations of students. At the University of Massachusetts, at several institutions in the University of Wisconsin system, and at one of the community colleges in Washington, the tapes were successfully used in courses taught to prison inmates. Successful uses with special courses for senior citizen were reported in both Massachusetts and Wisconsin. Several attempts were made in Florida and Massachusetts to encourage use of materials by making them available through local public libraries. Some success in reaching special populations were reported by all sites.

B. Conclusions

Drawing conclusions from a three-year project intended to shed light on patterns of use of audiovisual materials is a risky business. The forty-two campuses, colleges and universities in this project are representative of institutions of higher education in the United States. However, they are not samples from which the generalizations may be reliably drawn.

Nevertheless, the in-depth studies in each institution shed some light on patterns of use and possible strategies that might be employed to encourage more widespread and effective materials use. In these institutions of higher education, many faculty are interested in using audiovisual and audio materials as supplementary resources in their courses. The patterns of supplementary use could indeed be substantial and widespread. However, Annenberg/CPB Project has designed, produced, and promotes these programs to serve as telecourses. Except in the University of Florida, where there is a strong tradition of telecourses, the prevailing pattern of use observed in the DUA project was supplementary. This observation has implications for the promotion of existing Annenberg/CPB materials and the production of new materials.

The fact that the materials were made available at no charge during the DUA project obviously influenced decisions to use the materials on the part of faculty members. Indeed, in most of the interviews conducted with faculty, it was made quite clear that if they paid the usual fees the materials would not be used. During the course of the DUA project, Annenberg/CPB established a new pricing policy which facilitated supplementary use. Individual tapes can now be purchased for approximately $30 per hour and use is unrestricted. This policy will go a long way toward encouraging additional supplementary use.

The frequently alleged faculty resistance to the use of

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audiovisual materials did not become evident during the DUA project. Based on the interviews conducted in the study, faculty are not automatically opposed to the use of audiovisual materials. In many cases, rather, they report having great difficulty in reviewing such materials. Faculty are quite adept at reviewing print materials. The know how to skim and browse and can determine quickly how they might use such materials in their courses. The review of tapes is not something most faculty have experienced. Tapes are linear, and it is hard to browse through them. Consequently, few faculty members could find time to review the Annenberg/CPB materials.

Understandably, faculty were reluctant to use materials with which they were not familiar. Consequently, change in the patterns of use of these kinds of materials will occur slowly as individuals learn about effective use of such materials from colleagues. This method of diffusion based upon personal knowledge and contact occurs slowly. The evidence indicating slight increases in supplementary use between the first and second years of data collection of the DUA project suggest that such diffusion is underway in these five sites. It will be interesting to monitor periodically the patterns of future use.

It might also be useful to consider creating printed and machine readable indexes of the contents of the audiovisual and audiotapes. In this fashion, browsing the materials for possible supplementary use could be greatly enhanced. Anything that will

make it easier for faculty members to review and become familiar with materials will facilitate more widespread supplementary use of the materials.

C. Technology and Higher Education

As mentioned above, it is questionable practice to generalize from a small study to institutions of higher education. Therefore, in this final section, we speculate rather than generalize.

At the same time that Annenberg/CPB is expending substantial resources to produce audiovisual and audio materials for use of higher education, another technological innovation personal computing is sweeping across colleges and universities throughout the nation. The proliferation of networked personal computers and scholars' workstations is now a major innovation in higher education. Before too long, most faculty members students, and administrators will have easy access to substantial computing resources through personal workstations. This major innovation in the storage and retrieval of information relevant to teaching and learning in higher education will have profound impact on the structure and functioning of colleges and universities.

To date, there has been very little integration of visual materials in information storage and retrieval systems. For the most part they deal with numerical and textual data. However,

with the increased capacity for graphical display of computers, it now becomes not only feasible, but desirable, to integrate the storage and retrieval of audiovisual materials in campus computing networks. The sharing of such materials across campus and among campuses is clearly an exciting possibility for the future of higher education.

Interactive systems allow students to become much more active in the organization and conduct of their learning activities. Annenberg/CPB is to be applauded for appointing a staff member whose responsibility is to examine these interactive technologies and determine their relevance for future activities. Clearly, it is most critical for insuring future widespread and effective use of audiovisual materials in higher education.

Appendix A

ANNENBERG/CPB TAPE COPYING SUMMARY

Institution:_____ Compiled by:_____

Phone No:_____

I. Series Title:_____

II.

Program No.	Date Copied	No. Copies

III. Copying Format:

_____1/2" _____3/4" _____Audiocassette

(If multiple copies were in different formats, please replicate part II information for each copying format)

ANNENBERG/CPB UTILIZATION SUMMARY

Date_____

1. Institution:_____

2. Annenberg/CPB Course Title:_____

3. Semester/Quarter Used:_____

   As a course____ In a course (supplementary)_____

4. Academic Department:_____

   Course Number and title:_____

   On campus_____ Off campus_____ Extended Degree_____

   Number enrolled_____

   Traditional students_____ Special population_____
   (please describe) _____

   Credit_____ Noncredit_____

   Instructor:_____

5. Components used:

   _____Videotapes (if only selected tapes were used, please indicate which ones)_____

   _____Audiotapes (if only selected tapes were used, please indicate which ones)_____

   _____Recommended text

   _____Alternate or additional texts (please list)

   _____Student study guide

   _____Faculty manual/teaching notes

   _____Additional materials (please list):_____
   _____

   If a Learning Contract was used, please include a copy.

6. What was the format of the course:

Telecourse with:

_____only orientation and examination class meetings

_____several review class meetings

_____regular (weekly) class meetings

Supplementary use with:

_____regular class meetings (i.e. several times/week)

_____weekly class meetings

Other (please explain):_____
_____

7. How did you use the Annenberg/CPB materials in this course?

_____Viewed teleconferences

_____Viewed in class to supplement lectures

_____Assigned reading/viewing outside regular class meetings

_____Other (please describe):_____
_____

8. How were programs made available for student use? Please check all that apply.

_____Classroom presentation

_____Local broadcast

_____Cable transmission

_____Campus closed circuit

_____Library/media center reserve

_____Other - please describe
_____
_____
_____

9. Student reaction to the materials:

10. Additional instructor comments: e.g., level of satisfaction with these materials; involvement of distant learners/nontraditional students, etc.

11. This summary complied by: Name_____
(If different from "Instructor" in #4)

Title/Dept._____

Telephone_____

Please attach course syllabus if available.

Thank you for your assistance.